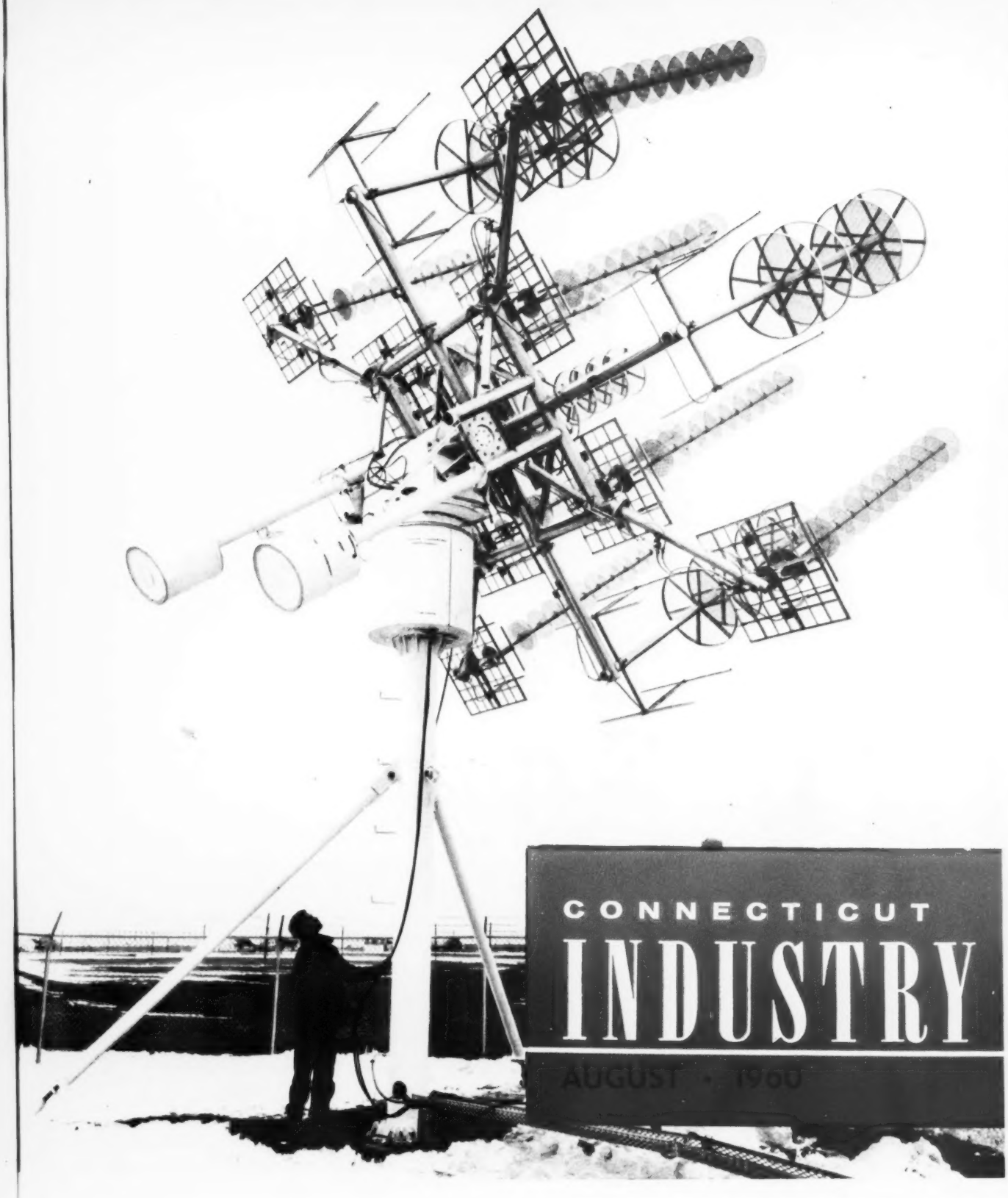

FIFTY YEARS OF
TUBE BENDING

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Your telephone system was just right for your business needs when it was installed — but how about right now? Does it make maximum use of the modern, efficient telephone equipment now available to companies with growing pains? If not, busy signals and delayed calls may be losing business for you.

Without obligation to you, one of our salaried communications specialists will review and evaluate your present system. Then, if changes seem advisable, he'll recommend the exact facilities to serve you best — telephone service tailored to your present needs with room for further expansion.

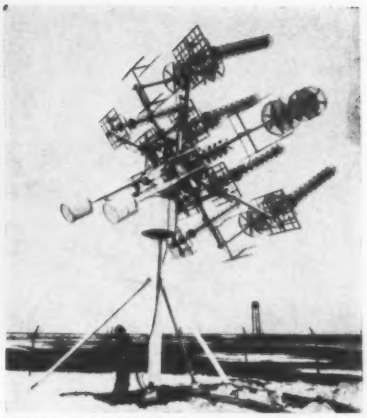
Just call our business office for this valuable free assistance

THE SOUTHERN NEW ENGLAND *Telephone* COMPANY

CONNECTICUT
INDUSTRY

AUGUST • 1960

VOLUME 38 NUMBER 8



THIS MONTH'S front cover depicts communication with satellites in space as maintained through SVE Antenna at Heightstown, New Jersey. The Electronics Division of the American Tube Bending Co., New Haven, built and calibrated a major portion of the feed network comprised of exacting configurations of ½" diameter 50 ohm Styroflex aluminum sheathed coaxial cable operating under three frequencies.

In This Issue

	Page
Editorial	3
Fifty Years of Tube Bending	4
This "Co-op" Really Works	7
Tailor-Made Music for Efficiency	8
The Alcoholic in Industry	11
Computer Services Help Small Business	13
News Forum	17
How Would You Decide?	33
Taxation	35
Public Relations	37
Accounting Hints	39
Business Pattern	41
Spotlight on the Future	43
Pause for Reflection	44
Connecticut Products and Services	45
Advertising Index	60

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After nearly a generation of such usefulness, T.A.D. JONES & COMPANY is naturally equipped to maintain and enhance its name for serviceability. Today our bulk storage of Bunker "C" Fuel Oil, Bituminous and Anthracite is among the most extensive in New England, like our facilities for delivery. ...And they are all as handy to you as your telephone!
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Let's Help Voters Make An Informed Decision

♦ IN our May issue we discussed the topic, "Will We Have a Choice in November?" Admitting that the outlook for that choice appeared bleak, due to the continuing leftist trend, we did see a ray of hope if men in management strongly asserted their views concerning candidates and planks in the party platforms.

Confining our view to the national picture what do we see in the national platforms of the two parties that gives us a clear-cut choice between the promise of "freedom with responsibility" and "utopia organized and enforced by the state?" Let's look at the platforms.

The 20,000 word platform presented by one group spelled out the most utopian program ever offered by a political party. Its New and Fair Deal ancestry is visible in every line. As one editorial states, "It dreams your troubles away. It is a literate and cohesive summary of every conceivable political promise. More arms and more disarmament, more peace and less Communism, liberation of the captive nations, but 'no cruel cultivation of false hopes.' Freer business enterprise and freer union picketing, cheaper money and a smaller public debt. Bigger satellites, nationwide TVA's and Possamaquoddy, more federal aid for every imaginable purpose from smog control to encouragement of the fine arts."

In addition to making the same strong class-angled appeal as was done by its forbears—the New and Fair Deal platforms—this harbinger of a brave New Frontier offers a present to every member of our national family with his name on it.

In effect, the Democrat platform just about emptied the conservative seats on the Democrat party board of strategy while issuing new reserved seat tickets to the youthful radical architects of the party program. The chief consolation prize to the conservatives in the South was the unexpected selection of Senator Lyndon B. Johnson of Texas as running mate. To add the unpredictable to the unexpected the new torch bearer of the Democrat party declared some three days after the adoption of the utopian platform that this expansive approach "holds out the promise of more sacrifice instead of more security."

As to the cost of winning all the prizes spelled out in the platform, a conservative estimate puts it at a whopping $12-billion more in Federal spending, if the Democrats are elected and if they keep their platform promises.

As one writer has cynically editorialized, "what the platform with a straight face cails 'fiscal responsibility' is floated off on the magic tide of a pledged 5% growth rate, with its automatic higher tax yield estimated at $40-billion for the next four years."

Let's look at the promises in the Republican platform hammered out at the Chicago convention.

Although containing only half as many words, it is said to have taken twice as long to complete, due to the fact that more "fingers were in the pie" during the making than with the Democrat platform. While proposals advanced by the Republicans were comparable with those in the Democrat platform in many sectors, there were also many real differences. Broadly speaking, the Democrat platform went into greater detail than the Republican in spelling out specific action. While the Republican platform declared the party's intent to assure a brighter future for the people of the United States it proposed to accomplish that result through stimulating private enterprise initiative rather than through the expansion of the role of the Federal government.

The details of the two party platforms, or even a brief digest of all their elements, are too lengthy to spell out here. On balance, however, the Republican platform spells out a governmental program that its framers and the party's new leader call "middle of the road." In contrast the Democrat platform outlines a program substantially to the left of center. Although more liberal than constitutional conservatives would recommend, the Republican program gives them a "half-a-loaf," whereas the Democrat platform offers a feast to the "liberal" and famine to the conservative.

During the next three months we shall see one of the hardest fought political campaigns in our nation's history. The stakes are high, for the outcome of the 1960 election may well determine whether private enterprise will fluorish or "die on the vine," choked to death by bureaucratic weeds.

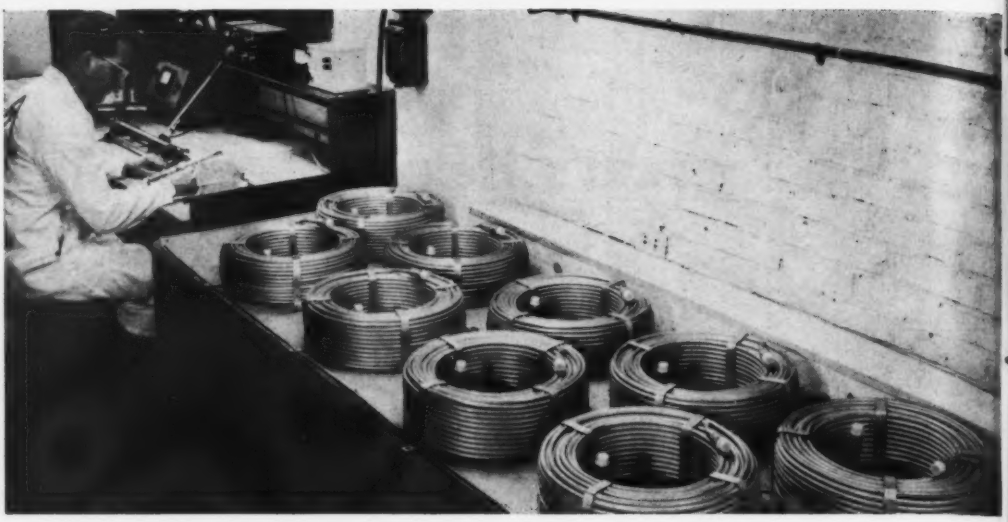
Since governmental action has a direct bearing on the success of business enterprise it is the responsibility of every business management to do everything within its power to assure governmental policy that will promote rather than retard the long term growth of the company and the job security of its employees. A proper concern for the discharge of this responsibility will require management to take at least the following minimum action before election.

First, employees should be encouraged to register and vote.

Second, the company's position on public issues, especially those affecting the company's business, the job security of its employees, the economic health of the community and the state, and the security of the nation, should be spelled out in company publications, on bulletin boards, in letters to employees' homes and in meetings with employees.

Third, the voting records of present office holders seeking re-election and the background records of new candidates should be made available for study by employees in order that they may make their voting decisions based upon fact rather than upon emotions stirred by campaign oratory.

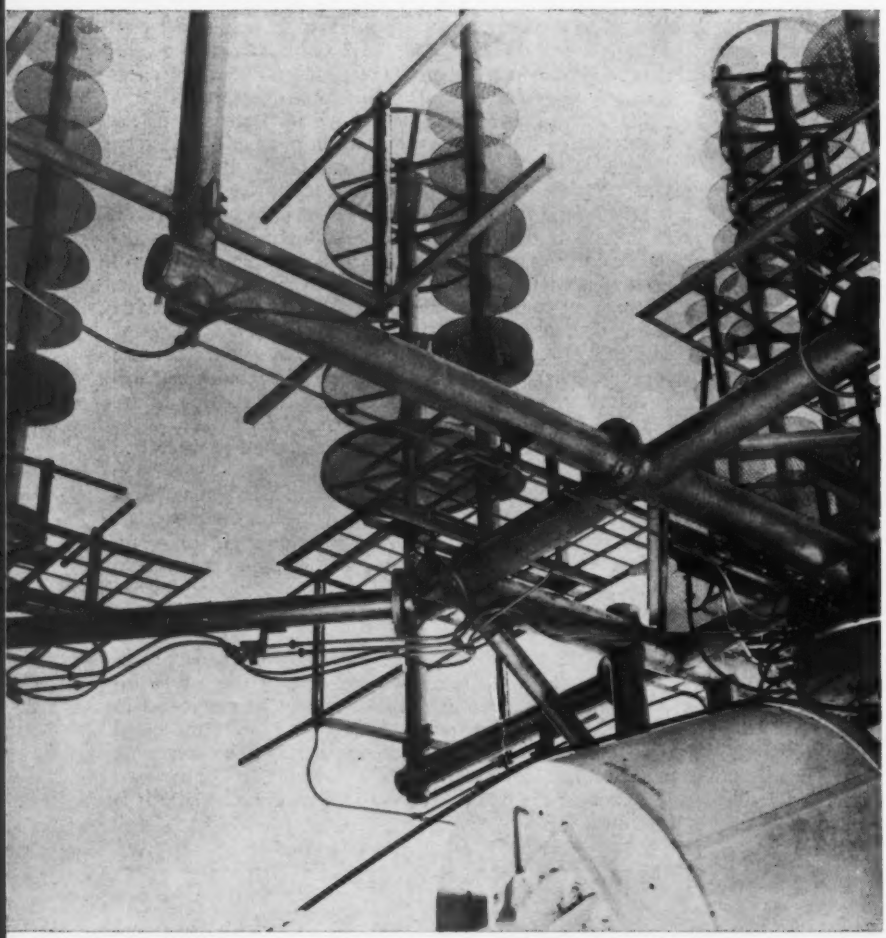
Whatever the decision of the voters, let us be sure it is informed.



Compact, highly accurate delay lines incorporate the "greatest amount of cable in the least possible space." Each unit consists of 285 feet of ½", 50 ohm Foamflex cable. Lines are designed and developed by American Tube Bending Company's Electronics Division for use in a missile check-out application.

Fifty Years of Tube

A close up view of the SVE Antenna at Heightstown, New Jersey. American Tube built the electrical feed network for the antenna.



The story of a half century of diversified service rendered to the American people through industry by the accurate shaping of tubing at the American Tube Bending Company.

■ THERE is more to tube bending than merely bending a tube. The seamless metal tube shaped to exacting configurations is a veritable workhorse. It transports milk, orange juice, other beverages and semi-liquids to trucks and canning vats. It helps carry electrical power from its generating source to the area of use. It moves fuel for the processing industries. Tubular frames form the basic structure for bicycles, automatic bowling pin setter machines, airplane luggage, and numerous other products.

Every day we benefit from a properly bent tube. If you drink it or flip a switch to it, the chances are a tube brought it. The American Tube Bending Co., 5 Lawrence St., New Haven, Conn., can testify to the growth and complexity of tube shapes by America's industries. For the past half-century the firm has convoluted tubes for automobile, aircraft and subway, can manufacturers, for the food, dairy, chemical and fuel processors.

Bent Tubes For Electronics Industry

This year, American Tube celebrates its fiftieth anniversary. And to main-

The company's contribution to World War II military aircraft can be seen in various tube configurations displayed here.

Bending

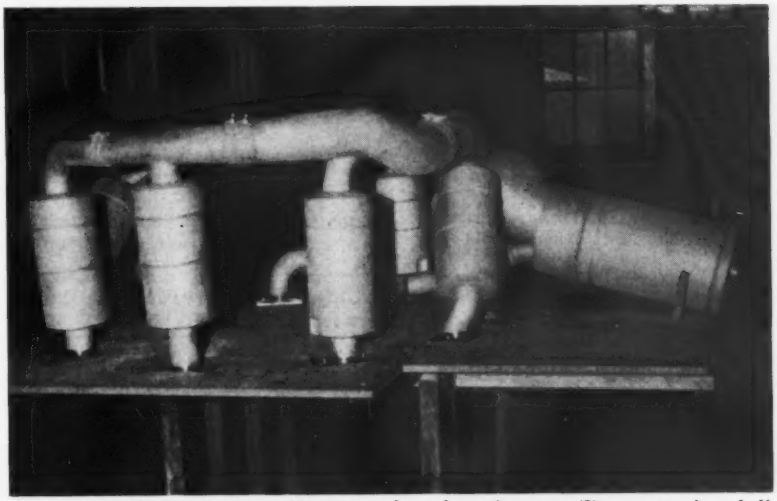
Studying blueprints of a tube configuration assembly, Henry W. Jones, III (left), vice president, and Henry W. Jones, Jr., president, tackle the first step of a production plan to provide exacting tube bends for industries' needs.

tain pace with America's industrial needs, the company recently established an Electronics Division. Utilizing fifty years of the parent company's tube bending experience, the new division will meet the demands of the burgeoning spacecraft, radar, radio and communication fields.

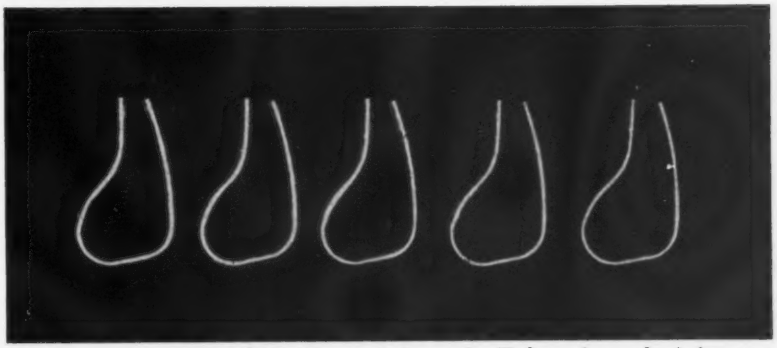
Many of these industries use Phelps Dodge air dielectric, coaxial cable for carrying electrical impulses in TV installations, radio tracking and radar stations, antenna feed and missile guidance systems, radio telescopes and telemetry. In some applications, cable delay lines are needed to achieve broader band operation, lower attenuation, better accuracy at higher frequencies and greater stability. If the cable is broken or interrupted to achieve a specific bend, increased electrical and mechanical distrubances result and this decreases effectiveness and pick-up range.

Until the recent processes achieved by American Tube's Electronics Division, no dependable, versatile method existed for bending Phelps Dodge Styroflex, Spirafil or Foamflex aluminum sheathed coaxial cable, allowing "termination to termination" use of the cable. In many instances, the cable was used only in long, uninterrupted lengths, and it became necessary to use braided cable, fittings and special transition devices. These procedures increased costs and severly limited the cable's applications.

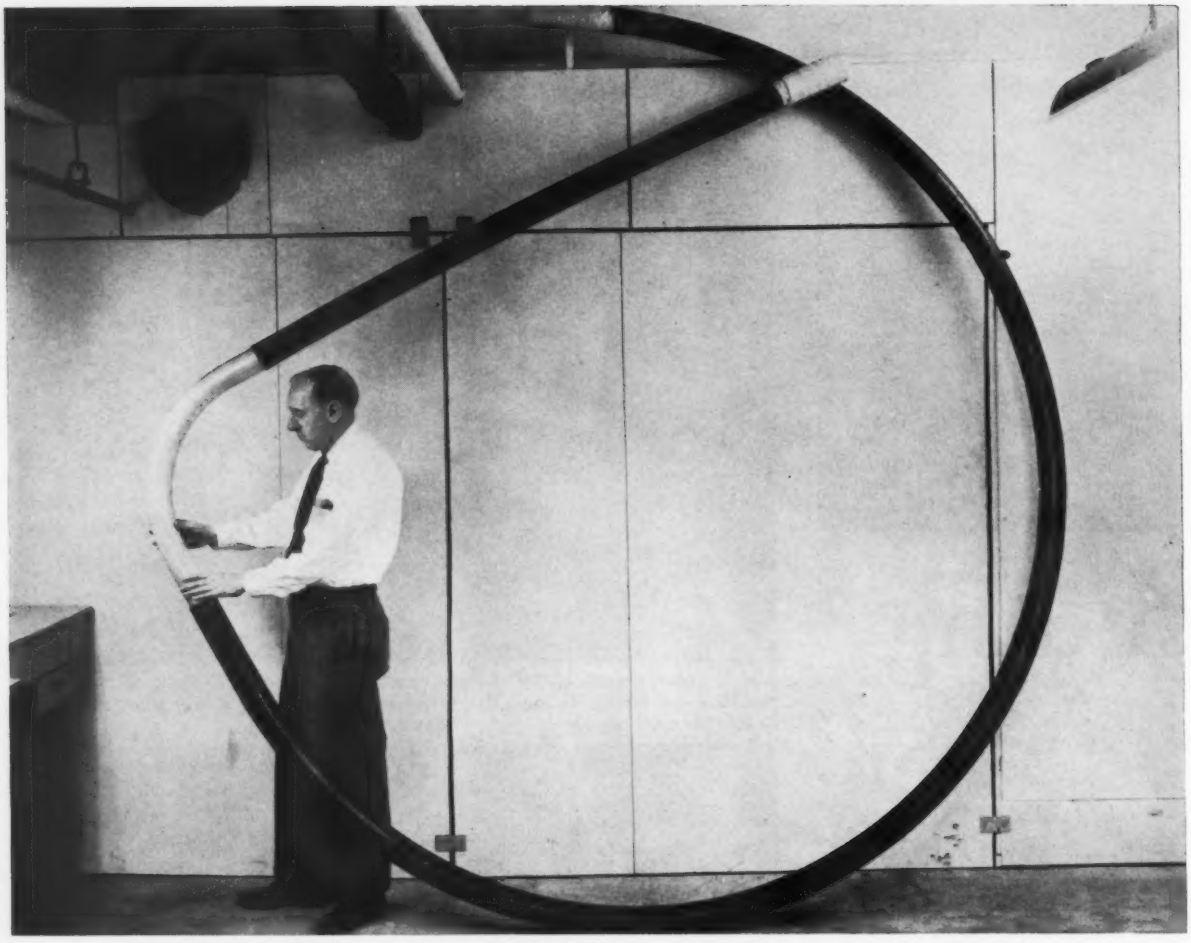
The newly-developed shaping methods make it possible to bend cable to



Not a noisemaker but noise muffler. A mock-up for exhaust muffling system in a helicopter. American Tube has always worked closely with aircraft engineers to help devise new improvements.



Subway "strap" has evolved into a properly bent tube. Today, tubes and tubular structures are utilized in a variety of applications in the electrical industry, by food, dairy, refinery processors and many others.



Products of American Tube's Electronics Division, established this year, is examined by Robert Noonan, production superintendent. Exacting, unbroken configuration of the 3⅛" Styroflex coaxial cable will be used in a radio tracking installation in Hilo, Hawaii.

a minimum practical radius of 3 times the sheath diameter to the center line of the bend. No minimum straight line is required between bends, one bend can flow into another without limitations as to plane. Within the last few months, the Electronics Division has completed cable configurations for Space Technology Laboratories for a radio tracking assembly in Hilo, Hawaii. Dynatronics, Inc., has utilized the cable in an automatic tracking antenna system; and many other electronic and spacecraft firms have taken advantage of the company's know-how.

Compact, highly accurate delay lines, incorporating the "greatest amount of cable in the least possible space" have been developed by the Electronics Division. Some of these units consist of 285 feet of ½" diameter, 50 ohm Foamflex cable, the over-all dimensions are only 15" across (diameter) by 6" in height. Yet, they have a tested accuracy of ±1 millimicrosecond and can replace former delay lines having a 75" diameter package. Hence, the size of the unit is decreased 5 times.

Range of Service: Early Autos to Rocket Engines

But these achievements, which are part of the latest advances in American technology, are "par for the course" at American Tube. From the "horseless carriage" to the first U.S. aircraft that broke the sound barrier, and to the present, American Tube Bending has played an important role in our nation's progress. When the Company opened its doors in 1910, the automobile had made its debut. Among the first work performed by the original ten employees was the making of brass manifolds for the automobile's water cooling system. The early Locomobiles, Thomas Flyers, Willys-Knights, Rolls Royces, Franklins and Marmons were equipped with one or more manifolds from American Tube.

From the very beginning of aviation, American Tube served both engine and airplane builders. The engine on the famed "Spirit of St. Louis," which completed the historic 1927 Atlantic flight, contained intake pipes and oil lines made at American Tube.

Around 1925, stainless steel tubing came to America via Europe. The food processing and chemical industries welcomed the new tubes; they solved many of their sticky problems. Housewives began to accept commercially canned juices and foods. The ready-to-serve product saved both time and energy without sacrifice to taste or quality. This started the cycle of emancipating the American woman from the slave-galley kitchen.

By 1936, the automobile, airplane, canned foods and other institutions were firmly entrenched on the American scene. R. H. Wulf, then president of the American Tube Bending Company died, Henry W. Jones, Jr. purchased an interest in the firm and became president. Under his direction the company not only kept abreast of the country's industrial needs but worked closely with design engineers in developing new and improved methods of tube applications.

During World War II, American Tube quickly adjusted itself to meet

(Continued on page 42)

This "Co-op" Really Works

Behind the story reprinted here there is another story, that of the planning and work of MAC's Executive Traffic Committee. The 14% freight rate increase in late 1956 spurred the group to consider all possible ways and means to cut the cost of laying down goods in distant markets. In the spring of 1957 the committee started discussions of the feasibility of forming a cooperative association of some sort to serve Connecticut shippers. Development was slow, but the research and planning was on a sound basis. Three members of the committee were the incorporators of the cooperative association. MAC could not, of course, devote funds to such a project, since it would not benefit all members, but it could and did provide advice on many of the legal and technical problems. It is significant that the founders of Charter Oak, all seasoned and experienced industrial transportation men, were not only interested in getting the best dollar's worth of transportation for their own companies, but saw the vital necessity of better and more reasonable transportation for the hundreds of small, specialized companies who do not employ industrial traffic managers.

Approximately fifty firms, big, small and medium, now are Charter Oak members. How and why they are making substantial savings and enjoying good service on their shipments to Chicago, Los Angeles and Detroit is explained in this article by Gardner C. Hudson, Traffic and Transportation Editor of "Railway Age," and is reprinted from the May 30th, 1960 issue of that magazine by special permission.

■ "SO far as transportation costs are concerned, it has taken Connecticut manufacturers out of the ocean and put us back on shore."

That's one member's enthusiastic reaction to "Charco"—more formally, the Charter Oak Shippers' Cooperative Association.

"It's already saved my company enough to pay our dues for the next 20 years," says another.

"On Pacific Coast sales," adds a third, "it makes us roughly equal to competitors located as far west as Michigan."

In addition to helping themselves, these Connecticut shippers are giving more traffic to local Connecticut truckers and to the New Haven and other New England railroads.

The organization which is bringing these benefits to shippers and carriers alike was incorporated July 2, 1958, with the stated purposes of procuring for its members:

- More prompt, economical and efficient distribution for their merchandise or products; and
- Consolidation, transportation and distribution of merchandise on a non-profit cooperative basis at carload, truckload or other volume rates, or by owning and leasing transportation equipment on a non-profit cooperative basis.

Growth Has Been Steady

Beginning with nine members, Charter Oak has grown, in less than two years, to 40; may ultimately expand to 60 or 70.

"We're more interested in service and economy than in size, per se," says one spokesman. "We don't solicit new memberships. We're perfectly willing to tell any prospective member about our organization and our service, but do so on request only. We don't go after them, and won't. They have to come to use."

As that philosophy indicates, Charco is strictly a non-profit organization. Officers and directors are forbidden, by the by-laws, to receive any compensation in any form, except for "reasonable expenses incurred" and only if approved by the membership as a whole. None of them, to date, have requested any such expenses. The only paid employee is a management agent —and he is paid, not by fixed salary, but by contract.

Charco arranges for consolidation of shipments into full trailerloads and full carloads, and provides for its members the benefit of coordinated rail-truck service at carload rates even on LCL or LTL shipments. Charco, however, does not physically handle any freight. All physical handling is done by members' own forces, by truckers and by railroads.

It utilizes Connecticut ICC-certificated common carrier truckers to pick up freight from individual member's plants, in full or part trailer loads; to consolidate partial loads into full loads; and to transport loaded trailers to railroad terminals. The cooperative also uses other ICC-certificated common carrier truckers for delivery to ultimate consignees in destination areas. It pays published ICC rates to all these truckers. Origin truckers service each of the four western Connecticut areas in which Charco members are presently concentrated — Hartford-New Britain; New Haven-Waterbury; Torrington-Winsted; and Fairfield County.

Destination Service Extended

Destination service originally limited to the Chicago area, has now been extended to Los Angeles and surrounding territory, with one trucker in each zone. Additional destination areas will be considered should there be a demand for better service than is now available at a cost that will permit members to increase their sales volume.

Between origin and destination truck territories, Charter Oak shipments move by rail, starting on the New Haven at New Haven; on the New York Central at Springfield, Mass.; or on the Boston & Maine at Holyoke, Mass. Movement to Chicago is by Plan III piggyback (Flexi-Van on the NYC); to Los Angeles it's by a combination of Plan III piggyback to Chicago and Plan IV beyond, or by box car.

Availability of Plans III and IV piggyback in New England wasn't, incidentally, responsible for Charco's formation. It was organized before those plans came along. But it was understandably quick to take advantage of them; they, in turn, have helped Charter Oak grow.

Individual trailer loads, despite a maximum of 40,000 lb imposed by local highway weight restrictions, average about 37,000 lb; net weights per two-trailer piggyback flat car run from 72,000 lb up to 80,000.

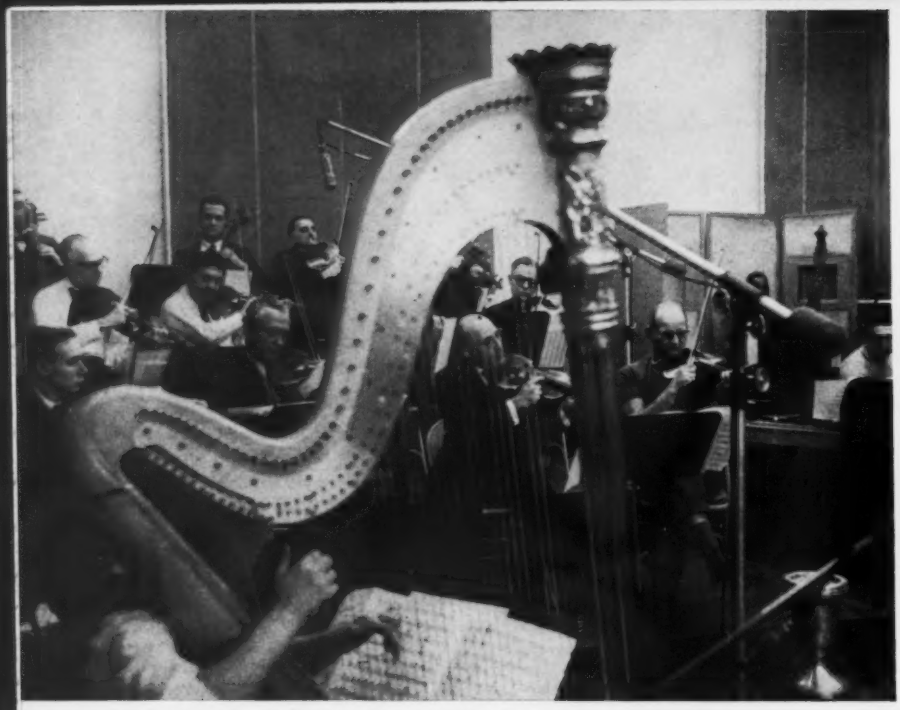
For these high average loading—and their resulting contribution to profitable operation—Charter Oak officers give credit to:

(1) Skillful management by their management agent and his staff;

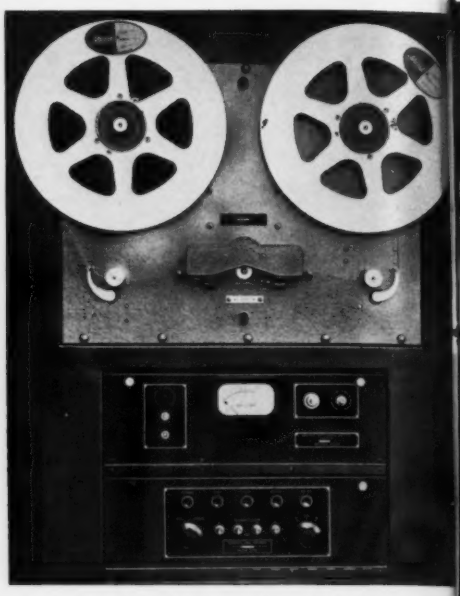
(2) Whole-hearted cooperation between individual members; and

(3) The originating truckers, who take a "personal interest" in seeing

(Continued on page 34)



Each month top flight musicians record special arrangements of popular hit songs, tuned from Broadway and Hollywood successes to keep Muzak's library fresh and modern.



The heart of the background music business is this M8R playback machine that plays 4800 feet of magnetic tape supplied by Muzak Corporation.

Tailor-Made Music For Efficiency

By CHARLES C. COWLEY, President
Muzak Corporation,
New York, N. Y.

Acting on the long accepted fact that "music hath charm," an ever increasing number of employers and businesses catering to the consumer public are utilizing those charms scientifically both for their own profit and that of their employees and customers. This article by a leading authority in the field of programmed music tells how music can be tailored for maximum effectiveness.

■AT exactly 11:18 this morning white and blue collar workers at the Torrington Manufacturing Company were turning out centrifugal blower wheels, fan belts and spring coiling machinery to the tune of "Star Dust."

Yesterday at 3:56 P.M., M'lady's toilet goods were prepared at John H. Breck Company, across the state line in Springfield, Mass., to strains of "Paper Moon," and later customers shopped in Beit's Supermarket in New London as clerks replenished stock to the theme song from "Moulin Rouge."

In Waterbury, tomorrow morning at 9:20, precision workers at Roehr Products will fit together intricate medical supplies to the tune of "Chloe," and four minutes later automation operators at the Aetna Life Insurance Company in Hartford will switch their machines on and off to the title song of "Sound of Music."

Next week's Pepperidge Farm Bread will be baked in Norwalk to "Harbor Lights," while Hat Corporation employees at the same time stitch head-gear for the Fall season to the same melody.

Popular hit-songs, latest Broadway show tunes, standards and old time favorites are wafting through the air in restaurants, factories, insurance offices and banks from Canaan to New Canaan, from Lakeville to Groton-Long Point. Soothing background music is heard in elevators, building lobbies and department stores in virtually every Connecticut village and town.

Music—A Soothing Universal Language

Oddly enough, most of this cheerful melodic mist filling the air in Southern New England industry by no means relates to employee entertainment. Most assuredly not. These pleasurable aural sounds are technically known as functional background music and their place in the atmosphere has a definite and wholly practical purpose. And their presence is convincing proof that music has taken its place along side of air-conditioning, sound-proof ceilings, indirect lighting, functional furniture, safeguards, clean restrooms and the coffee break as a utilitarian commodity to improve physical working conditions by helping workers combat on-the-job tensions caused by monotony, boredom, and fatigue. Paternalism aside, functional background music generates a calm and relaxed atmosphere, making an office or plant seem warmer, more attractive—all without entertaining.

Example of music-while-you work in factories is shown in the lithographing plant. Three speakers supply music to 65 employees on night and day shifts.

Milling department employees of structural and functional aircraft parts manufacturer hear specially programmed work music carefully engineered to reduce monotony, fatigue and causes of tension.

Music Banks—music programs for industry are taped on banks of recording machines at Muzak's New York studios. Each machine records eight hours of music on 14" reels of tape.

If you pause a moment to consider the power of music, you'll quickly become aware of the far-reaching and significant impact it has had on human beings down through the ages. One of man's earliest ways of expressing himself emotionally, music has sent men into battle, eased the drudgery of back-breaking tasks, and set a solemn background for religious worship. The calliope of the riverboat, the hurdy-gurdy at a carnival, organ music at a wedding, the taut precision of a swing band or the heady meanderings of a small jazz combo—all are a major contributing factor to the total emotional effect of any scene.

Music, aptly called the universal language, makes us feel gay, sad, patriotic or sense the dignity of a special occasion. It is tailor-made, with the sure knowledge of the composer and arranger, to produce the exact sensations it does, in fact, produce. Music is used for a specific job, to cover a specific situation, whatever that may be. This is why you don't hear Dixieland rhythms in church, nor do you hear hymns at a picnic. Whatever the occasion or need, music does the job—and does it quickly, emotionally, effectively. And, so too, does gentle stimulation in industry today via functional work music occupy a definite place in the scheme of things.

Music Reduces Tension and Error, Increases Production

Production and clerical workers, systems and procedures men say, rarely produce more than 50 per cent capacity. Of course, you know many examples where production rate is much lower. But, low volume production is not necessarily the fault of lazy or indolent workers. Rather, inefficiency is very likely caused by personal tensions triggered by the monotony of a dull, routine job, or by fatigue brought on by irritating machine noise or other shop cacophony. In short, physical conditions surrounding a worker are a key to his mental attitude and play a definite role in his productivity.

Employees vent their tensions and aggressions on their jobs by absenteeism, tardiness, early departure, friction with supervisors or other workers, daydreaming, "goofing off" and other familiar escape mechanisms.

These manifestations of job-inattention, well known to all employers, slow down production while increasing operational costs in an alarming progression. Newsweek Magazine, in a recent article, attempted to measure in dollars just how much tension-born inefficiency cost American industry in waste of men and machine. Their estimate ran around $3 billion annually.

When the expensive cost of recruiting, training and equipping a new employee is considered, it's obvious that production costs will be sharply decreased by even a slight rise in worker efficiency. In an era of difficult selling, the true significance of economizing on employee turnover expense becomes a question of serious import in the year-end balance sheet.

When a worker's daily activity is limited to taking items from point A to attach them to point B, how can he avoid not being bored by the spirit—dulling monotony of the assignments? He certainly comes to realize his work requires less attention than he is capable of giving, that his role is a minute place in the total production picture, and that pride of accomplishment is out of the question. Aren't these frustrations a fertile breeding ground for aggressions, real or imagined, all leading direct to tension?

A study of American workers just published by the Joint Committee of Mental Illness and Health, while admitting the possibility that aggressions and tensions could be built up at home, says "men who work on machine jobs have other reasons than home-fostered mental problems for being dissatisfied with their employment: they are more likely to be concerned with wages, job security and working conditions." This new government report concludes with the observation that "unskilled and clerical workers tend to be the least satisfied with their jobs."

Music, as thousands of industrial and business executives across the country have learned, can do something that good supervisors, incentive systems, better equipment, air conditioning and all other employee benefits cannot accomplish in that it provides an effective answer to reducing

aggression and tension tendencies. With authentic work music, specially arranged to fit the time, the place and the kind of work done, music's magic to calm nerves has been repeatedly demonstrated in the past quarter-century. There is ample evidence that with the presence of the right kind of music in the atmosphere, relaxed workers do increase production, while turnover, errors, absenteeism and idle chatter diminish. H. C. Shick, Secretary-Treasurer of Torrington Manufacturing Company, says, "We have found background music provides a pleasurable stimulant during the day and helps reduce errors and absenteeism."

Functional work music differs from the popular concept of background music in the sense that while the latter is merely a quiet form of entertainment music, functional music does not require active listening by its audience. This type of music is cheerful, non-distracting, meant to be heard but not listened to. Nor is the audience, whatever and wherever it may be, permitted to sink into a state of apathy or boredom. Specifically programmed for time, place and activity, functional background music is wholly concerned with the alleviation and reduction of worker tensions, without neglecting to any sizable extent entertainment values inherent in music. One doesn't listen to authentic work music, but it is heard subconsciously nonetheless. When it starts or stops you are aware of the musical change in the atmosphere, but soon the dulcet strains are absorbed without notice or, to use a current Madison Avenue word, subliminally.

Music Program Pattern All-Important

To achieve its goal, functional music programming must be designed in a manner that provides, first, a musical pattern of increasing stimulus matched against the normal daily trend of industrial fatigue and, secondly, to offset job monotony by a carefully controlled mixture of instrumental coloring and shading, tempo changes and other tonal qualities. Variety is the spice that avoids repetition, for repetitive rhythms, similar orchestral size and instrumentation can be a heavy contributor to the very monotony and boredom it is intended to counteract.

Industrial researchers, eminent psychologists and other experts in the field have long noted that the average worker in terms of efficiency and energy goes through a consistent cycle each day. He arrives at his job at peak efficiency in the morning, presumably rested and refreshed by a night's sleep. In spite of a few minutes lapse while getting his tools or machine ready before settling down to the daily routine, he is, at that time, generally capable of his best. With the passage of time, he begins to tire physically, or if his work is monotonous, he becomes bored, with a fall-off in efficiency. Here is where production tends to slow down and errors or mistakes increase. By midmorning, the end of the slump has about been reached, and a pick-up in speed and efficiency is noted, induced, perhaps, by the approach of the lunch hour. The pattern flows generally along these same lines for the second half of the day.

To combat this decline in efficiency, functional music programs are produced as a "mirror image" of this worker efficiency curve. Beginning at a relatively low point in the morning, the stimulation curve of the work music programs rises gradually in direct opposition to the down trend in the employee's chart until the highest point of effectiveness is reached at 10 and 11 in the morning, the period when the worker's spirit is at its lowest. A similar pattern is followed in the afternoon. Realistic programming, through the use of stimulating music to match worker sags, is the foundation of efficient functional work music. No other program pattern or plan can achieve this primary function. To start the day with brisk, peppy selections and then at mid-shift to switch to slow, dreamy tunes would tend to irritate and unsettle workers, with subsequent diminishing of production pace. There again, a lively musical start would tend to speed up the onslaught of fatigue by inducing workers to go too fast at the outset in unconsciously trying to match brisk rhythms.

Rationing, the Most Effective Method

It is important, too, to realize that continual use of music, like many other good things, can be itself a source of irritation. Studies both here and abroad have consistently shown that music, to achieve maximum effectiveness, should be rationed rather than continuous. These experts have determined that work music can best be utilized about half the working day, or four hours per shift. A schedule of 15 minutes of music, followed by a quarter-hour of silence is the consensus of these findings.

To be truly functional, the group of selections, as each music period commences, must be based on a scale of increasing mood stimulus, or to be more technical, built on the principle of internal mood progression. Don't be alarmed at this term—it's nothing more than a variation of the old vaudeville trick of putting on your best act last so the customers will be left in a happy frame of mind, demanding more. Applied to functional music, mood progression is a device that imparts to the listener with a strong feeling of gliding ahead. Says Frank Pilsch, Purchasing Agent of Friendly Ice Cream Corporation, Wilbraham, Mass., "Time seems to move faster with background music . . . our employees sense a moving forward feeling which they have not experienced heretofore."

Why not, you might ask, just play selected records on your own record player, or tune to a "good music" radio station? Let's compare these musical systems with scientifically engineered programming. First, there is nothing wrong with phonograph records, except they are primarily entertainment music and usually full of a variety of musical tricks to catch (and hold) attention. As they are commercial, they invite close attention. Skipping over the obvious distraction that a vocal, if any, might cause, there is the necessity to have some one designated to attend the machine, select records, add new ones from time to time to avoid repetition, and service the machine if anything goes wrong. Unless the employee selected for these chores happens to be a combination engineer and an astute musicologist with an expert's understanding of the intricate qualities which make up a musical selection, such background music, however delightful, is hardly scientifically produced or functional.

Radio music carries many of these same objections, together with the further disadvantages of the presence of commercial messages and that the programming is being done by someone whose main purpose is to attract and retain listeners.

Over these short-comings hovers the Court-backed ruling that ASCAP (American Society of Composers, Authors and Publishers, holders of more than 90% of the copy-rights to America's music) may charge a fee for unauthorized use of their product, as playing of commercial records (or radio, or tapes) for any other use than personal listening constitutes a "public performance" and hence liable for a licensing fee.

Two or three commercial firms offer different forms of background music service. At least two of these organizations use record playing machines equipped with records or tapes which play for varying lengths of time. In these systems, the player is turned on in the morning and off at night. No way exists to program specific selections to fit the hour or activity. When

(Continued on page 60)

The Alcoholic in Industry

By GERALD GORDON, M.D.
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Wilmington, Delaware

■ THE usual patient comes to the doctor's office with symptoms and wants to know the cause of his ills and have treatment prescribed. This is relatively easy.

Nature of the Alcoholic

The neurotic also has symptoms for which he wants treatment but is almost always unaware of the true cause of his illness and ascribes it to the wrong causes. Here the physician has a more difficult job because the true causes are unconscious, usually painful situations the patient is trying to avoid through his symptoms.

The alcoholic has both physical and mental symptoms which like the neurotic, he ascribes to wrong causes. O'Halloren and Wellman[1] point out "Beyond question most alcoholics have physiological symptoms which are caused by their heavy drinking. Many of them must be under medical treatment for these symptoms; but because of their compulsive need to keep their addiction hidden, they do not reveal to the physician the full extent of their drinking or the effect that alcohol has on their health. The physician in many cases is unaware that he is treating an alcoholic.

"He is able to conceal his addiction not only through public misunderstanding of alcoholism but because his pattern of surreptitious drinking is designed to hide his habit from his friends, his physician and employers."

Lecturing the alcoholic about the evils of drink is completely futile for he is a greater expert on the evils of drink than the non-alcoholic advisor or physician will ever be. In fact perhaps the 'evils of drink' are the very things he seeks since his goal seems to be self-destruction. There are only a few methods with greater guarantee of ultimate success.

Alcoholism has been aptly described as "fractional suicide",[2] for not only does he seem refractive to help but will often fight those who try.

"What would you think if you saw a man advancing his hand to pet a rattlesnake; a man who then punched you in the nose when you tried to warn him of the danger?"

The alcoholic behaves in what is to the non-alcoholic just such an irrational manner. Yet in one sense his behavior is not irrational.

A basis psychiatric principle is that all behavior is motivated. Even the most weird and seemingly harmful behavior makes some sort of sense to the individual. It is almost impossible to determine precisely what motivates anyone at any given moment. Mostly we do not even understand our own motivations, but in the long view it is possible to observe a general pattern; in the alcoholic it is a pattern of self-destruction.

If the man reaching towards the rattlesnake believed that petting it was not dangerous, on the contrary would bring him peace, contentment and happiness, then your interference would, in his eyes, justify the punch in the nose. After all a man has a right to life, liberty and the pursuit of happiness guaranteed by the Constitution of the United States even if it includes petting of rattlesnakes. His thinking is obviously delusional but delusions do exist even among apparently normal people.

Delusions in thought only, are bad enough, but disastrous when they guide behavior.

The situation becomes almost hopeless when the deluded individual can draw his family, associates or superiors into believing his delusions with him. Such is the situation when the alcoholic lies about, or minimizes his drinking, and we laugh with, or at him."[3] Society takes a very serious view of suicide, but looks upon alcoholism with kind of a benign amused tolerance.

An Alcoholic Problem In Every Plant

Dr. John Norris, Medical Director of the Eastman Kodak Plant in Rochester, New York, once said "The Executive who says he has no problem of alcoholism in his plant does not know what he is talking about." I subscribe wholeheartedly to this statement.

GERALD GORDON, M.D.

A comprehensive survey of a typical county was reported by H. David Archibald, Director of Alcoholism Research Foundation, Toronto, Canada,[4] where it was found that 6% of all the employed individuals in the county were alcoholics and who were distributed proportionately throughout all employment categories from the professional, managerial, proprietory, to the transient or casual.

Much has been written in recent years about the problem of alcohol; its moral devastation, its cost in dollars, its magnitude, hence no attempt is being made here to review the available mass of data. For those who see, the problem is apparent, and none are so blind as those who will not see.

Perhaps a good rule of thumb might be that any organization will have three serious or potentially serious alcoholics for each one hundred employees, both management and wage roll workers.

It has been reported that the average alcoholic had been drinking ex-

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[1] *P. O'Halloren and Wellman. California Medicine 89:129, August 1958*

[2] *Marvin Black, M.D., Chairman Committee New Yorg State Medical Society on Alcoholism. Paper delivered New Castle County Medical Society, Wilmington, Delaware, April, 1959*

[3] *Gerald Gordon, M.D., Dave M. How DuPont Handles Alcoholism. Petroleum Refiner, Nov. 1958*

[4] *H. David Archibald, Director Alcoholism Research Foundation, Toronto, Canada. Quoted in pamphlet of Kentucky Commission on Alcoholism entitled, "How Many Alcoholics in Your Firm?"*

cessively for 16 years before he found effective help. Most other diseases which had gone untreated for any such period of time would probably have long since resulted in total disability or death, but not the alcoholic. He seems to bounce back time and time again until the final collapse.

Breeching Defenses Difficult

Reports reached the Medical Division indicating the probability of a drinking problem in one of our women employees. When the alcoholic counselor and I called her in for interview she denied hotly that she drank heavily, indignantly insisting she had not taken even one drink in over a year because she had become allergic to alcohol and even showed us the red blotches on her skin to prove her allergic state. We tried to make clear that we were not accusing her of misbehavior but merely offering help if she had a problem.

Her general demeanor was that of a mother bear protecting her young. Frankly by the end of an hour, I felt a bit like a heel for having brought up the subject at all. The counselor finally excused himself saying "I guess if she doesn't have a problem, there's nothing for me to do." Acting as though she were forgiving me graciously for making a misguided, but well intended effort, she left the office with a slightly martyred air. In about five minutes I received a phone call from the counselor who said "I guess we must have upset out little friend—she's down here in Jim's bar having a couple of quick doubles."

I know this sounds like "snooping" but is it really an underhand, immoral act, or is it an expression of the highest form of humanitarianism to protect a fellow human being from himself. This individual eventually joined A. A. and has made an excellent rehabilitation.

We must keep in mind that an integral part of the disease is the very compulsiveness with which the alcoholic keeps his disease hidden, requiring heroic efforts to breech his defenses.

Mere drinking is not the whole problem of alcoholism. Many individuals have been known to drink a pint of whiskey daily for years without serious effect. Nor is alcoholism perhaps even necessarily related to alcohol at all for there is the well known phenomenon, the 'dry drunk', in which some individuals who, after they have become dry, appear to be as inebriated and intemperate as the man with a 'snoot full'.

There seems to be a deep self-destructive impulse behind the alcoholic's compulsive drinking and literal as well as social destruction is the inevitable outcome.

The plausibility, charm, intelligence and attractiveness is often one of the most disastrous aspects of the alcoholic personality. Many are for years highly successful and well thought of by their employers and associates, until the inevitable slow dissolution becomes apparent, first to close associates, then to everyone while the alcoholic retains the delusion that he can handle his liquor and in any event insists he could stop drinking any time it became a problem.

Aid from Alcoholics Anonymous

Dr. George H. Gehrmann, our recently deceased Medical Director, introduced an experienced counselor for alcoholism into the DuPont Medical Division in 1942 after many years' awareness of the seriousness of the alcoholic problem in industry and years of experience with the failure of the usual approaches to rehabilitation. He investigated A. A. and being impressed with its results brought an arrested alcoholic, Dave, into the Medical Division.

Dave is a member of A. A., and in dealing with the individual, acts as such since one of the basic tenets of A. A. is complete independence and freedom to help his fellow man.

As a Company representative, he must advise management, but he works with the alcoholics as a fellow sufferer. In our experience we have found no conflict of interests. For after all, it is in the Company's interest to have a "whole" human being occupying a job rather than the half-man frequently in a partial state of anaesthesia.

Perhaps the major value of using a rehabilitated alcoholic as an advisor, is his understanding of the negativism involved and the patience to keep on working with an individual regardless of the slips and rebuffs. He is familiar with the alcoholic's crying need and desire for help, and the difficulty encountered in admitting that he needs help.

Hurdles To Rehabilitation

There are several essential hurdles to be overcome in rehabilitation of the alcoholic. First the diagnosis must be established and this is not always as easy as it might appear at first glance. The diagnosis is made more difficult by the cleverness of the victim, the very asset which makes him such a valued member of society when not drinking. There is for example the case of a manager who had a stamp of his signature made so that he could 'sign' letters on bad days without evidence of tremor. At least he had probably deceived himself into thinking he was getting away with it.

Another stumbling block to early diagnosis, is the misguided humanitarianism of wives, bosses and associates, who ignore the symptoms or cover up for the victim. Obviously none of those trying to be helpful by protecting the alcoholic ever think their problem through or they would recognize that the man with the drinking problem follows an inevitable downward path to failure or death.

The second hurdle is to break through the powerful self-destructive drive of the alcoholic which is almost incomprehensible to the non-problem drinker. How many times we hear of families or supervisors crying out in frustration "He's such an intelligent person can't he see what he is doing to himself?"

The answer may be two-fold; no, he cannot see what he is doing to himself; or yes, he can see the inevitable self-destruction ahead, and that is what he seeks. In either event, the individual is almost never clearly aware of the deep-seated motivations which drive him to his activities.

Alcoholism in the limited state of our knowledge is a treatable condition even if the methods are somewhat empirical. One thing is obvious, the victim rarely gets well entirely through his own resources for he cannot, since the sickness involves the mind he needs to lead him to recovery. Without outside help he cannot obtain the objectivity to see his own delusional behavior in its true light. He needs able assistance to learn to resist powerful unconscious motivations, particularly in the early stages of rehabilitation.

Even if one accepts physical, allergic or physiological aberrations as the cause of alcoholism these cannot be controlled by will power alone. People who have never experienced the power of compulsions cannot comprehend a state of being driven irresistibly even to self-torture.

Cleverness: A Barrier to Diagnosis

Before the victim can be helped, a diagnosis must first be made. The layman's classic picture of the bleary-eyed individual who is frequently absent with illnesses which start on Monday mornings is more likely to be true of the *non-alcoholic*, or the heavy social drinker who "tied one on" over the week-end.

The true alcoholic has a status to defend and unlikely to give himself away so carelesssly, at least early in the

(Continued on page 36)

Computer Services Help Small Business

By I. J. SELIGSOHN, Computer Services Division,
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SUMMARY

High-speed digital computers—popularly known as "electronic brains"—are today helping many small businesses cut operating expenses and handle an increased volume of work. These computers are still so costly that only very large corporations can afford to buy or lease them. But the small businessman can turn to computer services organizations that sell the time of large computers on an hourly basis. The businessman pays only for the time it takes to solve his particular problem. Because a high-speed computer can perform many millions of calculations in an hour, a wide range of problems can be economically solved in a relatively short time. By making use of computer services organizations, a small businessman can take advantage of the most powerful data-processing machines available, without making any capital investment and without hiring additional personnel. Computer services organizations can enable the small business manager with a limited staff to cope with many complex problems in such fields as engineering, production, distribution, marketing, and accounting. They can help him to operate more efficiently and take on more work. Above all, perhaps, they can provide him with data that until now were the exclusive province of much larger corporations.

♦ NEWSPAPERS, magazines, and even television programs in recent years have been reporting amazing feats performed by giant computers. One corporation makes engineering calculations on an "electronic brain" that can turn out as much work as 25,000 men using desk calculators. Another corporation saves $500,000 a year in operating costs by figuring out complicated problems on a big automatic computer.

These reports are substantially true. But they are, of course, all about *large* businesses. Only very large corporations can afford to purchase a computer costing $2 million or more. And even these corporations must keep such expensive equipment continually busy 8, 16, or 24 hours a day, to pay off the initial heavy investment within a reasonable period of time.

Successful utilization generally will be based upon the ingenuity and enthusiasm of some employee within the company who is stymied by a lack of clerical computing help to perform the calculations he has to have. Even most large corporations would hesitate to take on a problem calling for 25,000 man-hours of engineering talent in mere computation work. Typically, in using a computer, a large company has staff engineers with the imagination and experience to visualize ways of using the calculator's high speed to do things that would otherwise be impossible.

What About Small Business?

But what about the small businessman—the one with, say, less than 250 employees. He can't afford to buy or even lease one of these large computers. What about the small firm that has only an occasional problem for a computer, or that needs a computer's help scarcely once a week, perhaps only once a month? What about the small plant manager who doesn't want to hire a full-time staff of computer specialists to operate these complex machines? Can these small businessmen take any advantage of the time-saving, manpower-saving electronic computers to strengthen their firms' competitive positions?

The answer is definitely YES—if the small businessman will make use of available computer services organizations.

Some computer services firms have complete staffs of mathematicians, economists, and other scientists, in addition to their computer specialists. One (or a team) of these people can come right to a small plant, analyze a problem, and gather the data needed to solve it. This does not mean, however, that a small manufacturer with daily engineering problems can do without engineers of his own. Computer services experts should be used as consultants on difficult problems, not as operating personnel. The small business owner who fails to recognize this distinction is not being fair to himself nor to any computer service with whom he may deal.

A further point is worth noting, too: You can't just walk into a computer services organization and get answers to all your problems right off the shelf. Many significant applications are already in use. There is no doubt of that. But many others are still more in the realm of future possibilities; their greatest impact is still to be felt. Nevertheless, the small manufacturer who fails to look into computer services may be likened to the woodsman who felt he was too busy to sharpen his axe.

Computer Services

Typically, a computer services firm has one or more large electronic digital computers on its premises. These computers operate by counting series of electronic pulses, which represent "digits" or numbers. They can solve any problem that can be expressed by numbers, and are thus general purpose computers.

(Another class of computers is the "analog" type, which *measures* physical quantities such as voltages or pressures, instead of counting. These machines are physical analogies or models of the type of problem they were built to solve. For example, the famous analog computer called "Typhoon" was built to simulate flight performances of guided missiles. Analog computers are less commonly used by computer services organizations, because such machines are more specialized in purpose—and also less precise—than digital computers.)

The general-purpose nature of the digital computers implies that many different businesses can solve many different kinds of problems on these machines. This is exactly the case.

Reprinted through the courtesy of the Small Business Administration.

Computer services organizations have a variety of clients, many of them small, in nearly every field of business and industry.

If you, as a small businessman, consult a computer services firm, you will be offered two major types of services to help solve your problem: programming services, and computing machine services.

Programming Services. First, a computer analyst carefully studies your problem, and tells you whether a computer solution is feasible and economical; in your situation, he helps in determining whether the problem that brought you to the computer services organization is complex or difficult enough to warrant a computer solution. When the analyst has finished his work, he turns the problem over to computer "programmers." These specialists prepare the instructions that tell the computer exactly how to solve your problem.

"Why are programmers necessary?" you may ask. The answer is: Because computers really aren't giant brains—they can't solve problems on their own. They're more like computing slaves who can do no more than just what they're told to do. Of course, they do perform their computations at incredibly fast speeds. That is what makes them so valuable.

The programmers write a detailed series of coded instructions, called a program. This program is tailor-made to solve a particular problem on the computer. If your problem is one that is common to many businesses, there may well be a program already in existence to solve it. In such a situation the programmer takes the proper program out of the organization's program library—and applies it to your problem data. This saves you time and money.

But even if your problem requires the preparation of a brand new program, you pay for only the programming services for that particular problem. You have no overhead costs of maintaining a programming staff just to solve an occasional problem.

Computing Machine Services. When the problem is ready to be run on the computer, both program and data are fed into the machine. The computer then solves the problem at electronic speeds. Answers can be put down on paper by a high-speed printer.

You are charged only for the time it takes the computer to process your set of data. This charge usually is based on an hourly rental of the computer. If you are to be a large user of computer time, rates are often figured on some other periodic basis. Most small businesses, of course, rent time on a computer by the hour. They want the benefits of fast, accurate computer solutions, without the large overhead of buying or renting their own computer full-time.

The computer services firm does, of course, have a large overhead. But it is divided among many jobs and clients. Often, computer services organizations plan to keep their machines running two shifts a day, sometimes around the clock. Thus, with fixed overhead spread thinly over many clients, individual job costs can be lowered.

What Types of Problems

Large-scale, general purpose digital computers can solve a wide range of business problems. The following are representative:

Engineering Problems. Complex engineering problems often must be solved before a given product can be manufactured. Typical engineering problems that can best be solved by computers include stress analysis, heat and pressure calculations, vibration analysis, engine and lens design. Most important of all, small manufacturers can now enter new fields that were closed to them before the advent of computers.

For example, one small manufacturer makes arresting gears for jet planes. Recently he used a computer for the first time to engineer his product. Then he announced enthusiastically, "From now on, in research and product development—all the way "from deep freezers to atomic engines —the small company can hope for the first time to make a definite contribution."

Lengthy Data-Processing Problems. The high speeds of electronic digital computers today make possible the rapid processing of great amounts of clerical data. Computers can drastically cut the time and costs spent on functions such as payroll processing, billing, shop-order writing, and sales analysis. Certainly, large corporations can and do effect greater savings by applying computers to these problems. Why not small business?

Indeed, some of them are now finding it increasingly profitable to turn to computer services firms for data-processing help. They find that fewer clerks can handle much more work in less time and at a lower ultimate cost with the aid of computer services. This is especially true in the case of a small firm expanding its business but not yet able to afford more clerical personnel or a move to larger quarters.

Computer services can also provide small firms quickly with up-to-date control information for use in inventory control, cost accounting, and the like. The freshness of this information is often vital to the success of a business.

Here's an example: One small manufacturer now receives a complete sales and inventory analysis once a week—sometimes once a day when volume is high. This enables him to balance his operations, preventing over-production or under-production, while keeping inventories low but still without the risk of running short. For highly seasonal products, computers can predict within reasonably safe limits the requirements for pre-season and working inventories of finished items and sub-assemblies. This helps to level out production curves, lower costs, and obtain more efficient operation. Before computers were available, this manufacturer had to make production decisions using information that was months old. His plans were based on estimates and samples rather than on accurate facts.

Other types of business, of course, need up-to-the-minute information; for instance, wholesalers, manufacturers agents, construction firms, small banks, and brokerage houses. One computer services firm specializes in rapid data-processing for banks that do not have their own computers. At 6 P. M. each day, the computing firm receives from various banks the posting documents, new account data, figures on installment payments received, and so on. At 8 A. M. the next day, the banks receive the day's complete transaction journal, and every 5 days they receive new borrowers' payment books, delinquent account lists, and the like—all prepared by the computer. The result? The banks are able to give excellent service to their customers, with fewer personnel and lower costs, and with less delinquency. Customer accounts of manufacturers (merchants, agents, and brokers, too) can be handled with equal facility by computers.

Production Problems. Small manufacturers have been making increasing use of computer services to solve complex production problems, such as:

(1) Machine shop scheduling—finding the number of each item to be produced by each station in a machine shop, to minimize delays and overtime, and to shorten delivery time;

(2) Production scheduling—designing schedules to meet expected sales, and varying these schedules in accordance with sales fluctuations;

(3) Blending or mixing problems—finding the best combinations of ingredients or raw materials: and

(4) Reduction of trim losses—forming, shearing, slitting, or punching rolls and sheets of material to produce various sizes, while at the same time minimizing waste.

The typical small manufacturer seldom has the knowledge or staff to cal-

(Continued on page 38)

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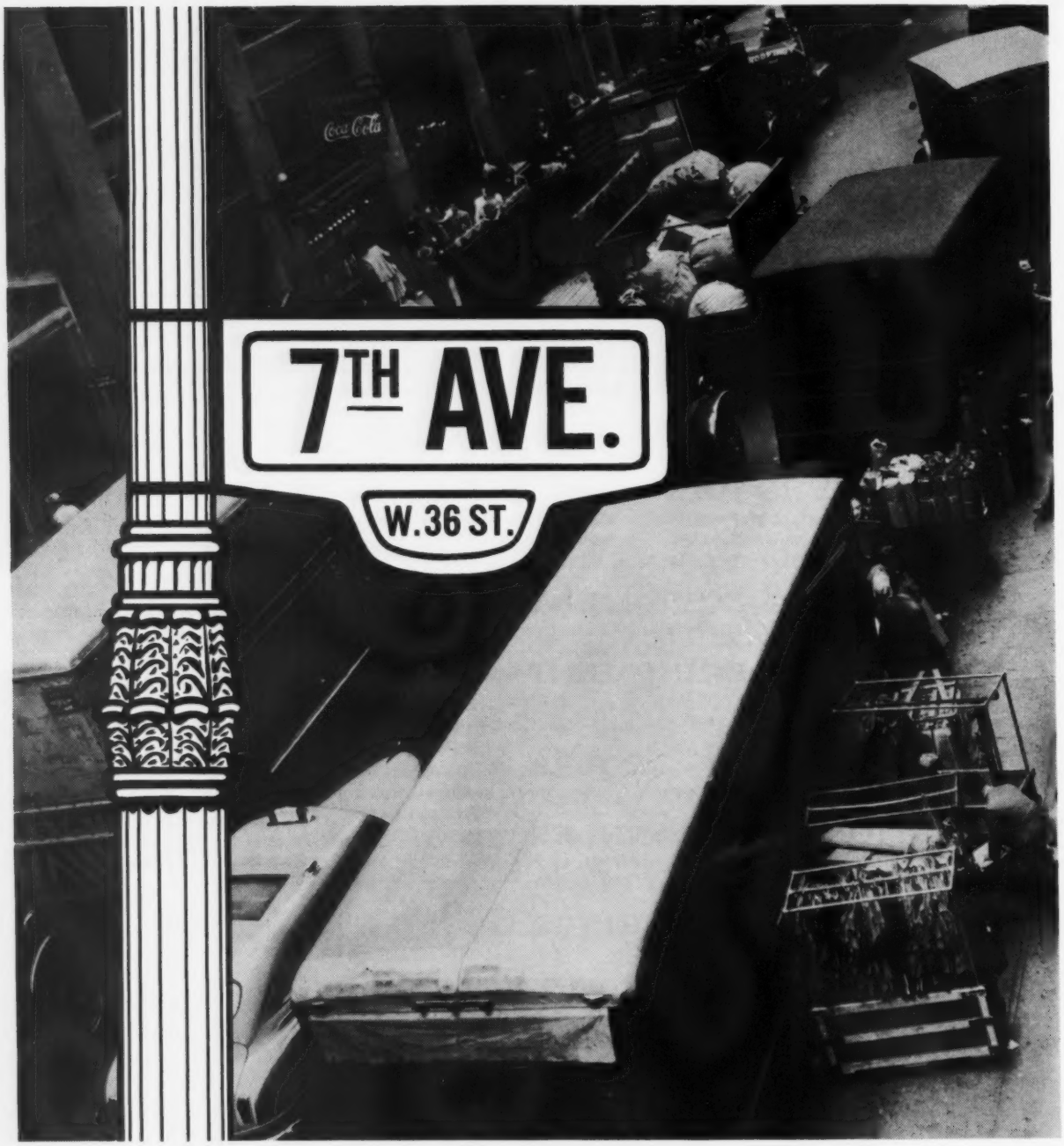

THEY NEED SPEED

New York's garment center is known the world over for the speed with which it can spot a fashion trend and turn it into garments.

And this calls for suppliers who can keep needed materials moving to the garment manufacturers at the same fast pace.

One of the important needs of these manufacturers is for quick delivery of small lots of thread — such as American Thread's popular KISMET — dyed to match some fabric color that "the trade" believes is going to be "hot."

The handling of such small lots at Willimantic *(with delivery made within 48 hours after a color swatch has been received in New York)* is a tribute to the personnel involved. Two of the key features of this high-speed operation are advance preparations at the mill even before the sample is received there and fast, door-to-door delivery in New York.

Fast, sales-making service like this is an important part of Willimantic's operations.

THE AMERICAN Thread COMPANY

WILLIMANTIC, CONNECTICUT

News Forum

This department includes a digest of news and comment about Connecticut industry of interest to management and others desiring to follow industrial news and trends.

♦ THE BEEKLEY CORPORATION of West Hartford, producers of specialized data processing products and systems, observed its 25th anniversary in June.

The firm was founded as the West Hartford Printing and Lithographing Company in 1935 by F. Cheyney Beekley, who is the firm's president. The company started with two employees and only a few hundred dollars of equipment. Today, 40 persons are employed, and the company has thousands of dollars of equipment and a machine shop to build and service the specialized equipment necessary for its operation.

The Beekley Corporation is now embarked on an extensive expansion program. It is moving its offices from the present ground floor location at 12 North Main Street, West Hartford, to the penthouse suite in the same building. New data processing products are being introduced, including a near-automatic hand addressing system and a data processing machine, the first of several prospective machines to be introduced in coming months.

Other officers of the firm are W. Mason Beekley, vice president and general sales manager, and Walter B. Haase, secretary and treasurer.

♦ THE NEWTON-NEW HAVEN CO., die cast producers and designers, West Haven, have built and installed a safety device on die casting machines assuring 100% safety for the operator. The device mechanically prevents the sliding bolster from moving forward and catching the operator's hand while removing the casting.

Essentially, the safety device is comprised of a toothed longitudinally mounted bar above the upper machine bars. The mounted bar pivots at the stationary machine platen, permitting its far end to move up and down. It is equipped with an adjustable toothed stop block which falls into the front face of the movable machine platen. The machine remains inoperative when the stop block is so positioned. When the operator manually lifts the stop block, the machine platen moves again.

♦ GERALD J. HOGAN has been appointed general superintendent of the Bloomfield and Hartford plants of The Kaman Aircraft Corporation, the company has announced.

Mr. Hogan joined Kaman Aircraft as production supervisor in the Bloomfield plant in January of this year. In his new position he will direct all manufacturing shop activities at the two plants.

♦ WARREN C. HYER, president of York Research Corporation, Stamford, has announced the appointment of Capt. James F. Tucker, U.S.N. (Ret.) as director of advanced research and development.

Capt. Tucker, a graduate of the U. S. Naval Academy, holds a B.S. degree in electrical engineering; B.S. in operations analysis and M.S. in Physical Sciences. His Naval career was highlighted by duties with the office of Naval Research as associate director with responsibility to plan, budget and administer the scientific, technological, and operational research program of the Naval Sciences Division.

♦ FRED J. GROSS, manager, educational sales of Stanley Tools, New Britain, has recently completed 50 years of continuous service with the hand tool division, and has retired.

Well-known from coast-to-coast for his contribution to the up-grading of school shops and their facilities, he is a pioneer in the field of school relations for industrial firms serving the schools. Through his efforts a number of teaching devices were developed which are distributed to the shop instructors by Stanley Tools.

A native of New York City, Mr. Gross joined the New York Office of the Stanley Rule & Level Company in 1910. In 1914 he was transferred to the bookkeeping department at New Britain, and later worked in the pur-

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chasing department. He organized the educational sales department in 1923 and was made manager in 1930.

♦ CARLETON W. BLANCHARD, for twenty-five years president and co-founder of Wyatt, Incorporated, New Haven, wholesale cargo distributors of industrial fuels, has announced the election of several new officers: George Kinson Blanchard, president; Dudley F. Blanchard, executive vice president; Maurice W. Powell, senior vice president; Benjamin F. Perkins, Jr., vice president; Walter P. Macauley, vice president; and C. Theodore Krug, vice president. Carleton Blanchard will assume the newly created post of chairman of the board.

George Kinson Blanchard is a graduate of the University of Massachusetts. He is a former vice president of the Wyatt Coal Sales Company of West Virginia, and for two years was Mayor of Pelham Manor, New York.

Dudley F. Blanchard, formerly vice president and assistant to the president at Wyatt, Incorporated, also becomes president of The Wyatt Terminal Corporation.

Mr. Powell has been with Wyatt since 1940, having devoted his business career to the fuel business since leaving Harvard in the class of 1933. Mr. Perkins, who joined the company in 1953, has been a sales representative in Western Massachusetts. He is a graduate of Yale University.

Mr. Macauley, a graduate of New Haven College, has been with the company since 1941. He has been very active in Connecticut light oil organizations, a past president of the Connecticut Petroleum Association, and presently serves as a director. Mr. Krug joined the company in 1958. He is a graduate of Dartmouth College and before joining Wyatt was employed by Cluett, Peabody & Company, Inc.

♦ A 62% INCREASE in the sale of Beaver riding tractors over a like period last year has been reported by W. L. Hancock, sales manager of the Beaver Division of The Baird Machine Company, Stratford.

The increase is generally attributed to a more aggressive promotional program and the development of commercial markets other than the home owner field, mainly among landscape gardeners, golf course operators, poultry farmers, industrial plant groundskeepers and for highway maintenance use. In addition, important new markets have been opened in the export field.

♦ GEORGE F. MCDONOUGH has been named manager of personnel administration at Kaman Aircraft Corp., Bloomfield.

Mr. McDonough was formerly vice president for industrial relations at Pratt and Whitney Co., West Hartford, from 1955 until he was named to his new post.

As manager of personnel administration, Mr. McDonough will direct the activities of the employment, wage and salary sections of the Industrial Relations Department. He is one of two industry members on the State Board of Mediation and Arbitration. He was appointed to a six-year term on the Board by Governor Ribicoff in 1957.

♦ A NEW six-page Catalog Section 30 details the extensive engineering services and fabrication facilities available for special process equipment design and production at Rolock Incorporated, Fairfield.

The engineering approach is stressed and the brochure illustrates and describes not only available facilities, but also a range of typical special fabrications ranging from large and complex weldments in Inconel, the Hastelloys and other special alloys to heavy vacuum pressure vessels. Copies of the Catalog Section 30 are available on request.

♦ PAUL N. STANTON has been named vice president of marketing of Pratt & Whitney Company, Incorporated, it has been announced by Jacob J. Jaeger, president.

Mr. Stanton will be responsible for all sales, market research and advertising activities of the company's line of machine tools, cutting tools and gages.

Mr. Stanton was formerly with Clearing Machine Corporation, Division of U. S. Industries, Inc., Chicago, as general sales manager.

♦ HOWARD D. CORKUM, American Thread Company's director of research, has retired from active service with the company, but will continue to serve on a consultant basis.

David H. Fields has been named to succeed Mr. Corkum. He has been assistant director of research since January 1, 1959.

Mr. Corkum first joined American Thread in 1943. At that time he personally organized the company's research laboratories and helped develop the quality standards now in use at the mills.

Mr. Fields is a chemical engineering graduate of Yale University. He has been closely associated with American Thread's research and development activity since joining the company in July 1949.

♦ FLEXIBLE multi-channel programming and elimination of mass tape duplication and bulk erasing are two features of a new and simplified language laboratory system introduced by the Educational Equipment Division of Edwards Company, Inc., Norwalk.

From the master console of the new Edwards system, up to four separate lessons can be broadcast. Each can be channeled to any desired combination of student booths. Lever-type switches control student booths, and are arranged on the panel to match geographic booth locations. Instructors can channel different lesson material to any number or combination of students. In addition, from the console, teachers can listen and speak to any student.

♦ A PACKING recommendation chart, prepared by the Packing Division, Raybestos-Manhattan, Inc., Bridgeport, shows maintenance and engineering personnel the proper packing types to choose for specific applications.

The new chart, on stiff paper stock suitable for posting on the wall, suggests seven basic packing types for 95% of all packing needs, including such applications as pumps and valves, high-temperature valve stem and expansion joints, high-speed rotary air compressors, corrosive and viscous liquids, chemicals, gasket applications, and hydraulic and pneumatic equipment. Copies are available from the company.

♦ JULIAN ROGOFF, vice president and manager of the Omaton Division of Burndy Corporation, Norwalk, has been elected executive vice president of the corporation, it has been announced by Marvin Lee, president.

Mr. Rogoff joined the company shortly after graduating from New York University in 1930 with an M.E. He was named assistant chief engineer in 1939, chief engineer in 1947, vice president in 1955 and has headed the Omaton Division since 1956 when it was organized to serve the electronic and electrical manufacturing markets.

Named to succeed Mr. Rogoff as manager of the Omaton Division is Fred Heller, present assistant manager.

♦ A CONTRACT valued at $7,200,000 for the development and qualification of a higher rated gas turbine engine has been awarded to Lycoming Division, Avco Corporation by the U. S. Air Force, it has been announced by James R. Kerr, president of Lycoming.

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Fredrick H. Waterhouse (left), executive vice president of MAC; James F. Wall, president CSW Plastic Types, Inc.; William J. Desmond, Jr., Travelers Insurance Co., and Arthur L. Woods, MAC insurance manager, study contract for pension plan.

The contract is for a 2200 shaft horsepower T55-L-5 engine which will power the Army's new three ton twin turbine YHC-1B "Chinook" helicopter now being developed by Vertol.

♦ BALLES T. NEZAMES, assistant secretary of the Kaman Aircraft Corporation since 1958, has been elected treasurer of the corporation.

Mr. Nezames joined Kaman in 1951 as senior accountant. He rose to bookkeeping supervisor, chief accountant, assistant to the treasurer and to assistant secretary, a post he still holds.

♦ ELLSWORTH S. GRANT, president of Connecticut Manifold Forms Co., West Hartford, has been named chairman of the State Legislation Committee of the Greater Hartford Chamber of Commerce.

The Committee studies legislative issues which may develop during the next session of the General Assembly, and makes reports to the Chamber membership on pending legislation.

♦ CSW PLASTIC TYPES, INC., Rocky Hill, is the first MAC member company to sign an application to participate in the Association's new retirement plan which becomes effective September 1, 1960.

Although designed to appeal particularly to smaller industrial companies, the plan is set up to reduce costs of a pension program for MAC members regardless of size.

Pension benefits are based on an employee's earnings and years of employment, and are also payable in the event of death before or after retirement. The program is underwritten by the Travelers Insurance Company.

Since CSW Plastic Types signed up for the program, many other MAC members have also decided to participate and the plan is now being studied by all of the Association's membership.

CSW manufactures products for and services clients in the advertising, printing and publishing fields. All its employees are covered by the new plan. CSW officers are James F. Wall,

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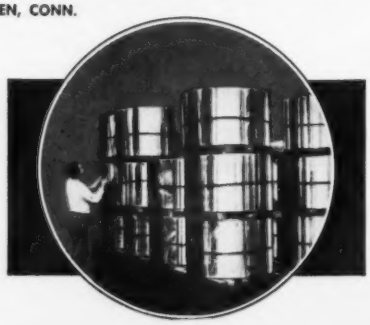

president; Richard T. Wall, vice president and secretary; John H. Reid and Lester L. Egan, directors.

♦ SPACE AGE electrodynamic vibration testing equipment has been adapted to the far more prosaic but nonetheless necessary task of production grading large grinding wheels. The technique, developed by MB Electronics, New Haven, a pioneer in the field of vibration testing, offers a faster, simpler and more accurate quality control tool for abrasive manufacturers.

A new refined approach uses an MB C31 vibration exciter, driven by an MB amplifier with variable frequency sine wave input. Weight of the abrasive wheel under test is carried mainly by two metal standards from which the wheel is isolated by four three-layer sections of Isomode pad. This provides 90 per cent isolation of the wheel and reduces electrodynamic excitation requirements.

By scanning oscillator frequency, the operator notes at which frequency the four-point sand pattern forms. The forced vibration of the exciter, which corresponds to the natural or resonant frequency of the wheel, then can be read directly from the oscillator dial. By coupling a frequency counter to the system, even greater accuracy can be obtained.

♦ GILBERT C. STRUBELL, plant manager of American Brass Company's Torrington division, has been appointed administrative director of metallurgy and research.

Mr. Strubell received his B.S. in chemistry from Brown University in 1931. He has been with American Brass since 1937, starting as a trainee in the Waterbury division tube mill. In 1938 he joined the technical department as a laboratory assistant, and was appointed assistant to the supervisor in 1940. In 1947 he was named technical supervisor of the Torrington division, and later became works manager. He has been plant manager of the division since 1958.

♦ THE FAFNIR BEARING COMPANY, New Britain, has announced that James W. Oldziey, a member of the graduating class at New Britain High School, and Richard J. Nixon, a member of the graduating class at Cromwell High School, have been awarded the Elisha H. Cooper Memorial Scholarship and the Fafnir Science and Engineering Scholarship respectively.

Both scholarships are awarded annually to children of employees. They are worth $1000 each and are renewable each college year provided the

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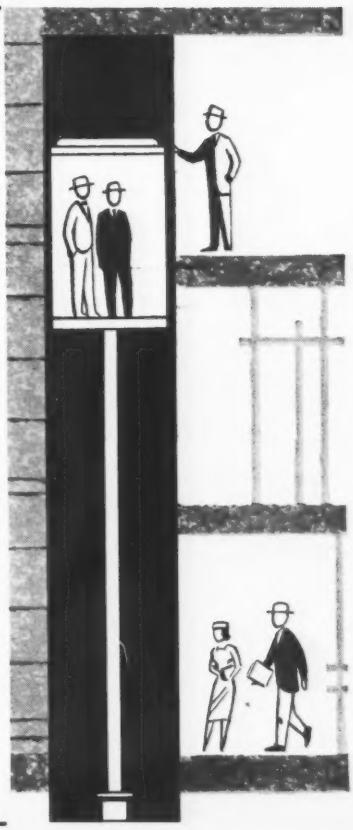
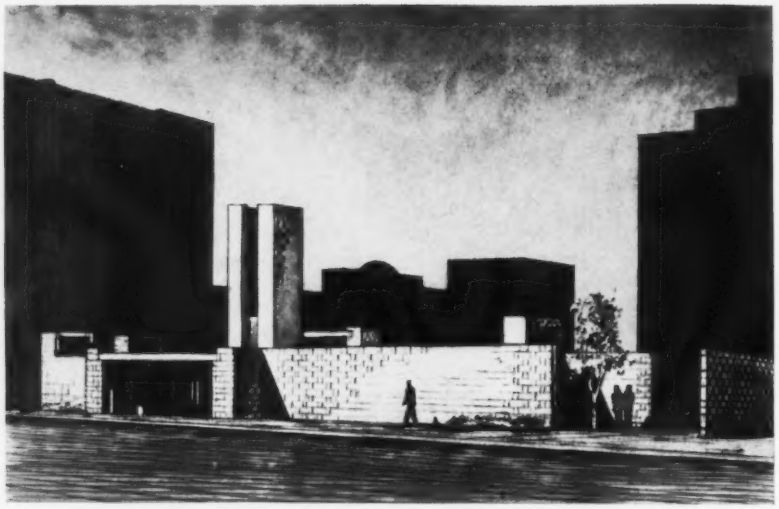
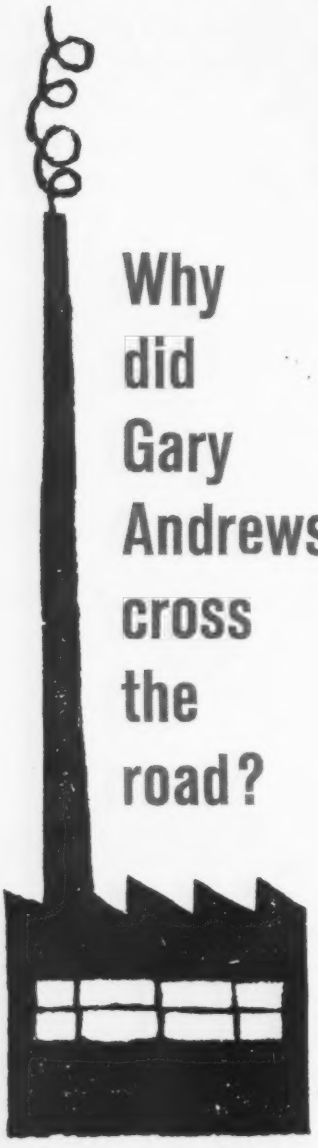




Architect's rendering of "New New Haven Progress Pavilion", erected in a single day, as gateway to big redevelopment area in midtown New Haven. Built largely of Plasticrete masonry bloc, the 50' by 100' structure is co-operative gift to city by local building materials manufacturers, contractors and architects, with labor volunteered by members of local building-trades unions. The pavilion is to house maps, scale models, etc. of redevelopment project for public information.



holder maintains a satisfactory academic standing.

♦ AFTER MORE than forty years of continuous service with The Cushman Chuck Company, Edward L. Field has retired from his position of treasurer.

Starting employment in February, 1920 in the purchasing department, Mr. Field spent a brief period with the company as an outside salesman, but returned to the purchasing field in 1923, later becoming purchasing agent.

In 1930 Mr. Field was elected to the office of assistant treasurer and was elected treasurer of the company in 1952. He will remain with the company in a consultant capacity.

♦ THE ADDITION of a new series of precision mandrels to their line has been announced by LeCount Tool Works, Inc., West Hartford.

The new LeCount "Compact" mandrels are said to be more economical than the standard models because they are shorter and lighter and have the same wide expansion as the type "B" long straight jaw mandrels.

The new line consists of 14 mandrels ranging from 3/8" to 3¼" and with jaw bearings ranging from 1" on the smallest to 2½" on the largest.

♦ CURTISS WAY DIVISION of Eastern Color Printing Company, and its affiliate, Domonel Press, Inc., Meriden, have been acquired by Hughes Corporation, New York. The two Meriden companies produce newsstand publications and long-run commercial printing by both letterpress and web offset.

The Domonel Press, which employs about 125 people in its two plants in Meriden, has been incorporated as Domonel Press, Inc., and will be under the direction of R. Dale Hughes, president and general manager, and Russell G. Nelson, vice president and plant manager. Mr. Nelson has been the operating head of Curtiss Way and the Domonel Press since 1941.

The Hughes Corporation is also the parent company of Hildreth Press, Bristol and the Wilson H. Lee Company, Orange.

♦ A NEW four-page bulletin published by the Toolroom Equipment Division of the Producto Machine Company, Bridgeport, describes a number of products for the toolroom.

The booklet includes illustrations of Producto's all new Versa-Tap hand tapping machine, Model VT-1; Die Assembler, Model DA1P; Williams Model F-4 Roto Recipro Toolmaking Machine; and three toolroom vises. Copies are available from the company.

♦ SHERMAN R. KNAPP, president of The Connecticut Light and Power Company, Berlin, has been elected president of the Edison Electric Institute by its board of directors.

Vice president of the Institute since last June, Mr. Knapp succeeds Allen S. King, president of Northern States Power Company, as head of the trade association of the nation's investor-owned electric companies.

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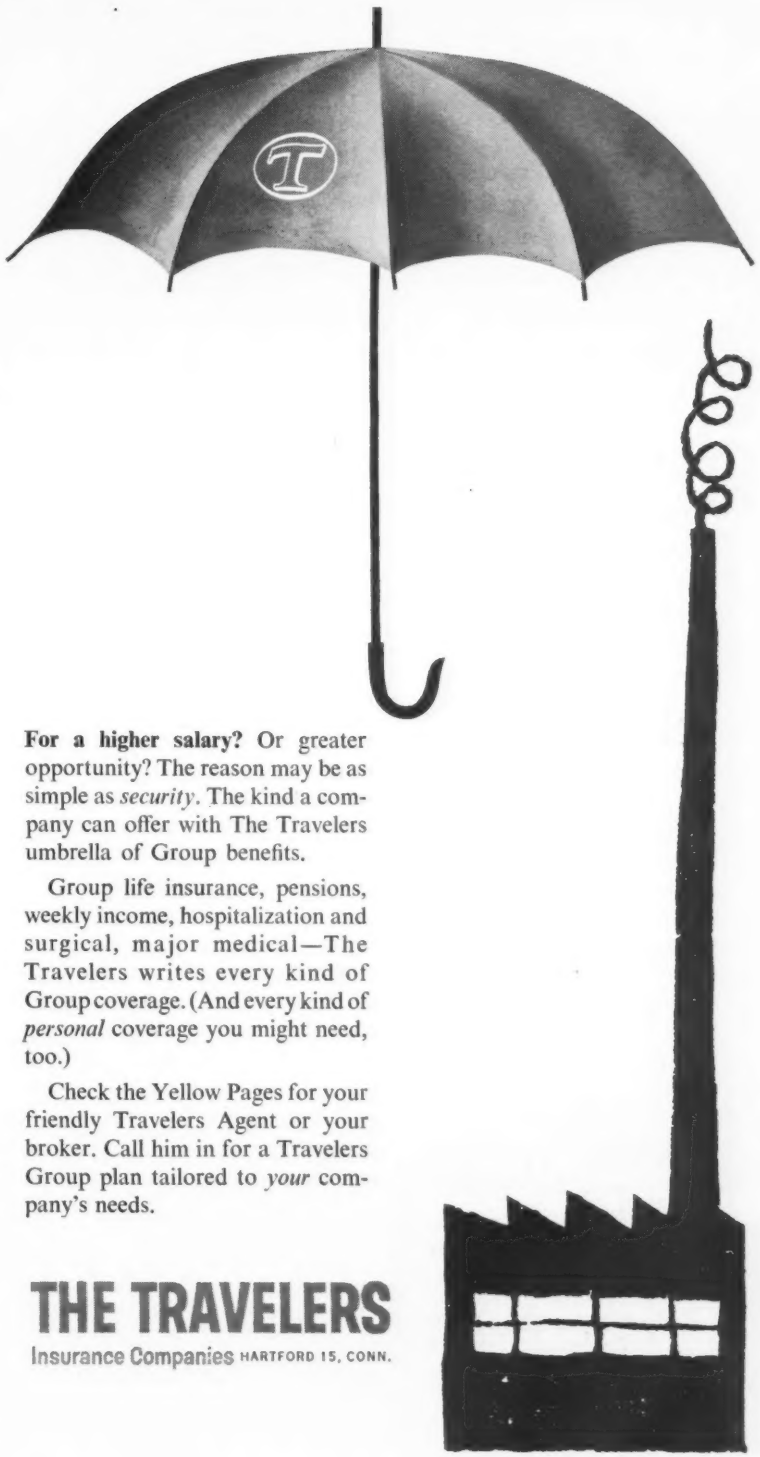

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♦ WILLIAM E. FORTMANN was named chief development engineer at Hamilton Standard Division, United Aircraft Corporation, Windsor Locks, in a series of promotions announced recently by William E. Diefenderfer, engineering manager. David R. Pearl was promoted to development engineer, and James D. Evers to Mr. Fortmann's former post of chief design engineer.

Mr. Fortmann and Mr. Pearl have been assigned to development work on the Hamilton-Zeiss electron beam process for welding and machining.

♦ THE SMITH & WINCHESTER Manufacturing Company, South Windham, has completely remodeled its line of trimmers. Built for high production with great accuracy of cutting, the new model "Trimmastre" comes in standard sizes of 56", 76" 86" and 96". The company has been producing trimmers since 1899.

Featuring a solid back table for automation in loading and unloading, a swinging front table with no side obstructions, to ease cutting, and electro-magnetic operation of the high speed knife, the "Trimmastre" is equipped with an air film, power back gauge and "Spacemastre" electronic automatic spacer.

♦ GABB Special Products, Inc., Windsor Locks, has recently produced a new brochure covering their complete line of Shear-Flow industrial mixers.

Included is an explanation of the mixer's design and operation principle, mixer sizes, weights and horsepower available.

Featured is the introduction of the new Shear-Flow Continuous Mixer describing its principle, function and available sizes. Copies are available from the company.

♦ THE APPOINTMENT of George E. Byers, Jr. as general manager of the Chemical Products Division of Darworth Incorporated, Simsbury, has been announced by President John E. Ellsworth. Mr. Byers joined Darworth, a subsidiary of The Ensign-Bickford Company, Simsbury, in September, 1959, as assistant to the recently retired general manager, David Murray.

Mr. Byers will be responsible for all the Division's activities and expansion in the field of Wood Preservatives and related products. The Division operates manufacturing and laboratory facilities at Simsbury and maintains sales representatives throughout the United States.

Mr. Byers was formerly product manager for Sargent and Company, New Haven, and director of marketing and assistant treasurer of Safety Industries of New Haven.

♦ A $900,000 Navy contract for the manufacture of ejector bomb racks has been awarded to the Singer-Bridgeport Military Products Division of The Singer Manufacturing Company, Bridgeport.

The mechanism is designed to discharge a bomb by means of an explosive charge. When the pilot presses the bomb release switch an electrical impulse fires two cartridges, opening hook racks and actuating a piston-type ejector. Utilizing the basic ejector and hook mechanisms, the unit can be altered to fit the needs of a variety of installations.

♦ A NEW LINE of asbestos safety clothing that will shed molten metal at 3000°F without deterioration, loss of resiliency or discoloration of inner side has been announced by American Optical Co., Putnam and Southbridge, Mass. Called Thermogarb, the specially woven fabric offers 40% to 50% greater abrasion resistance than ordinary asbestos, and has nearly double the tensile strength of fabrics twice its weight and thickness, according to the manufacturer.

Beside offering protection from high heat and metal splash. Thermogarb is recommended for applications involving exposure to glass, chemicals, ceramics and oils. The line includes coats, leggings, cape sleeves, coveralls, sleevelets, spats, pants, chaps and aprons, all in white or yellow.

♦ REPUBLIC FOIL, INC., Danbury, producer of standard purity aluminum foil for electrical capacitors, has announced that construction is proceeding ahead of schedule for its new $750,000, high speed four-high rundown strip mill. An initial mill operation is scheduled for January, 1961.

The installation will allow the firm to obtain from its suppliers reroll foil stock at twice the present thickness, according to John W. Douglas, president.

The new rolling mill will also enable metal to be reduced at very high speeds, thereby improving production efficiency and increasing plant capacity.

♦ DIE CUT, or preformed shapes of dry adhesive film mark a significant advance in laminating procedures, according to The Auburn Manufacturing Company, Middletown.

Feature of the new Auburn adhesive is its unique paper interliner which permits accurate die-cutting or preforming. The 2-mil film has a visible effective adhesive layer that allows

the operator to use precisely the right amount of adhesive for each joint.

According to Auburn, the adhesive film is extremely versatile, and gives excellent uniformity of thickness at the glue line. It eliminates messy applications and solvents, provides safer, healthier operating conditions, cuts waste due to human errors, and facilitates inventory control.

♦ FREDERICK A. DOWNEY, manager of accounting and finance, was elected the assistant treasurer of The Warner Brothers Company, Bridgeport, according to John W. Field, president and treasurer.

A graduate of Booth & Bayliss Business School and the Pace Course in accountancy and business administration, Mr. Downey is a Certified Public Accountant and was employed at Morrell, Prinzing and Company before his employment at Warners in 1951 as a staff accountant. In March, 1957 he was promoted to chief corporation accountant and in 1958 was named manager of accounting and finance.

♦ ROBERT F. QUINN has been appointed advertising and sales promotion manager for Veeder-Root Incorporated, manufacturers of computers and counting instruments, it has been announced by W. C. Stauble, president.

For the past three years Mr. Quinn has been director of advertising and sales promotion with the Philip Carey Manufacturing Company, Cincinnati. Previous to that he had served as advertising manager of Pittsburgh Corning Corporation and assistant advertising manager of National Gypsum Company.

♦ TO MEET the many requests from veteran machinists, apprentices and students in the metalworking industries, the J. T. Slocomb Co., South Glastonbury, designers and manufacturers of over 900 different types of micrometers, has just published a one-page, two color sheet on "How To Read a Micrometer."

The literature describes the micrometer's principle of operation, how to read gradations and caliper on a conventional micrometer from thousandths to ten-thousandths of an inch. The back of the sheet graphically illustrates three examples on calculating reading.

Instructions on how to read a "Speedmike" are also included. The "Speedmike" is a Slocomb exclusive and is read numerically and directly.

♦ SIROCCO SCREENPRINTS, designers and producers of silk screen

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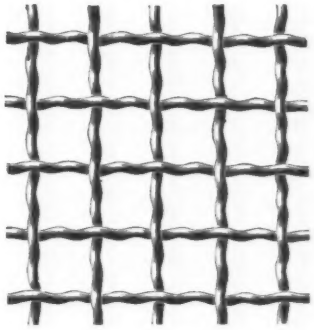

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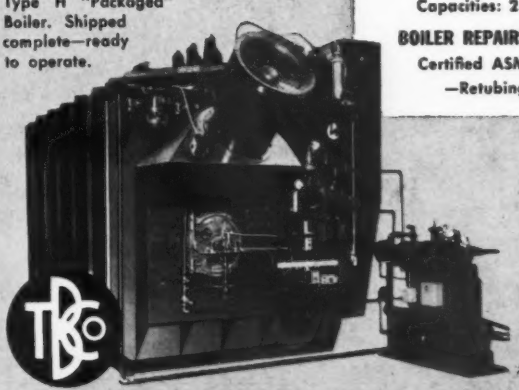

THE BIGELOW COMPANY
New Haven 3, Conn.
Established 1833
REPRESENTATIVES IN PRINCIPAL CITIES

process advertising materials and decalcomania, has started operation at its new plant at 376 State Street, North Haven.

The company employs 14 skilled workers specializing in various phases of the graphic arts. Paul Sperry is president of the company, Fred Sharp, process printing manager, heads production operations and the company's creative sales department is headed by Howard Kuhn, formerly art director at Wallace Sliversmiths, Wallingford.

♦ SINGLE-CONDUCTOR PLUGS and receptacles in 25 and 250 ampere ratings have been added to The Superior Electric Company's line of Supercon electrical connectors. They incorporate the first major design changes in this type of connector in many years, according to the Bristol company.

The new connectors feature a functional "fishtail" plug design; simplified, quick assembly; a range of six colors: red, white, blue, yellow, black and green. All current-carrying parts are of brass, gold-plated for stable electrical contact and resistance to corrosion.

♦ A COMPLETE LINE of softblank top jaws in sizes and shapes for all chucks made to American standards has been announced by The Skinner Chuck Company, New Britain.

Included in the line are medium- and heavy-duty types in standard, extra-high and long pointed jaw construction for tongue and groove mounting.

Skinner also offers soft blank top jaws and master keys for mounting on serrated master jaws, for heavy-duty power and scroll chucks.

♦ ROBERT S. BAKER has been appointed vice president-manufacturing of The American Brass Company, Waterbury. Mr. Baker, director of mill operations since 1952, succeeds Sydney H. Wardell, who has retired.

A native of Cleveland, Mr. Baker received a B.S. degree in metallurgy from Yale University in 1925. That year he started with American Brass as a trainee in the company's laboratory. In 1935 he was appointed service engineer at Waterbury and four years later he was named technical supervisor to the Torrington division. He became assistant works manager of the Torrington division in 1946 and its works manager in 1948. Four years later he returned to the company's headquarters as director of mill operations.

♦ THE MODERN FACILITIES for the production of precision drawn cold-finished steel bars at Willimantic, are described in a new brochure prepared by Jones & Laughlin Steel Corporation.

The brochure describes J&L's Willimantic facilities for the production of a wide range of cold-finished bar products and a fully-equipped metallurgical laboratory for complete chemical and mechanical analysis of the mill's products.

The booklet notes that Jones & Laughlin has been a major American steel producer since 1853. In that time the company has played a vital role as steel supplier for New England industrial growth and expansion.

♦ THE BARDEN CORPORATION, Danbury, has purchased a 50% stock interest in E.M.O. Instrumentation Limited, English manufacturer of precision ball bearings, it has been announced by J. Robert Tomlinson, Barden president. Barden also holds options to buy additional stock for a majority interest or complete ownership.

The English firm, like Barden, is exclusively devoted to production of highest precision ball bearings. Its 30,000-square-foot plant, a well-equipped facility with more than 200 employees, is located in Bracknell, Berkshire, 30 miles from London.

The E.M.O. output will supplement that of the Barden plants in Danbury of precision ball bearings now re- to furnish the variety of sizes and types

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quired by the British and European markets.

♦ THE ELECTION of George A. Benington as chairman of the executive committee of the Perkin-Elmer Corporation has been announced by Richard S. Perkin, chairman of the board and president of the scientific instrument firm.

Mr. Benington, who recently retired as a vice president of Allied Chemical Corporation, has been a director of Perkin-Elmer since 1952.

♦ PURCHASE of Boesch Manufacturing Company, Danbury, by Waltham Precision Instrument Co., Waltham, Mass. has been announced by Louis R. Ripley, Waltham president, and Arthur H. Boesch, president of the Danbury firm.

The 60-year old Boesch firm specialized in the production of patented toroidal winding machines widely used in the electronics industry and by other manufacturers.

♦ THE MCCREA MEDAL, emblematic of distinguished service and accomplishment in the malleable iron castings industry, was presented by the

At the recent 1847 Rogers Bros. divisional sales meeting Craig D. Munson (center), president of The International Silver ompany, Meriden, presented James B. Megede (left) an engraved sterling silver tray in recognition of 35 years association with the company, and James T. Lester (right) sterling beverage cups honoring his retirement after 40 years with International. The cups were engraved with facsimiles of signatures of his fellow salesmen.

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The above modern, one-story masonry building with 15,000 square feet of air-conditioned glass-front showroom space and 15,000 square feet of warehouse space with ample parking and truck loading area, is now available for leasing to one or more tenants. The building is strategically located in Dallas Trinity Industrial District, only 8 city blocks from the center of "Downtown Dallas."

If your requirements need the services of an aggressive merchandising, warehousing, distributing or franchise distributor organization, we invite your inquiry! For complete information write, wire or telephone Mr. John Fletcher at the address below.

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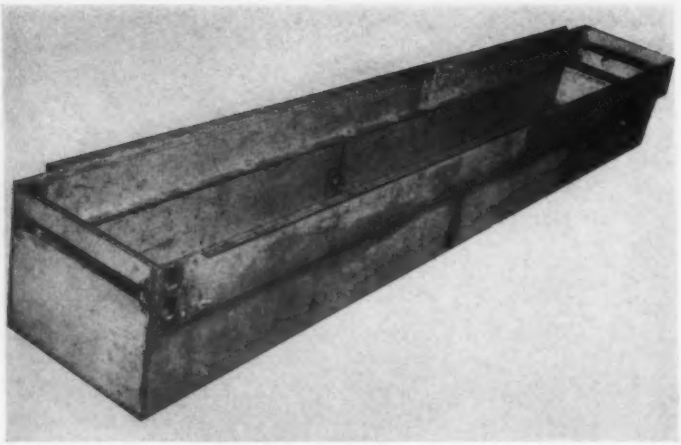

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ELECTROGRAPHIC CORPORATION

Malleable Founders Society to Charles M. Brust, recently retired president of Eastern Malleable Iron Company, Naugatuck.

The presentation was made by James M. Smith, General Manager of Central Foundry Division of General Motors, like Mr. Brust a former president of Malleable Founders Society and himself a recipient of the McCrea award.

The award is given in honor of the late Charles N. McCrea, former president of the National Malleable and Steel Castings Company, to the individual judged to have contributed significantly toward the progress of the industry and the development of the art.

Mr. Brust was president of the Society in 1955-56, served on its board of directors and on several committees. When he retired from Eastern Malleable in February of this year he lacked a few months of marking his 50th anniversary with the company.

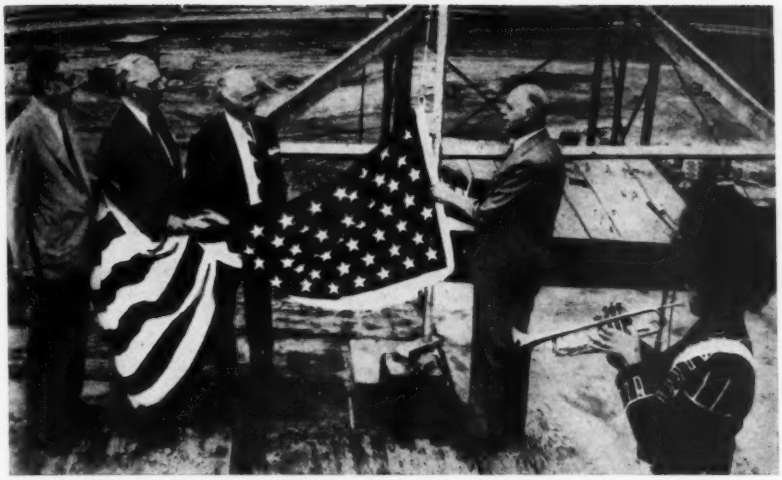
♦ THE JACOBS Manufacturing Company, West Hartford, has announced the formation of its Clessie L. Cummins Division. The newly-formed division will operate as a part of the West Hartford plant and will engage in the manufacture of diesel products.

The formation of the division was brought about by the purchase of patent rights from Clessie L. Cummins of San Francisco, California. Mr. Cummins is the founder and past president of the Cummins Engine Company, nationally known manufacturer of diesel engines, located in Columbus, Indiana. Upon his retirement from the Cummins Engine Company he formed his own research company in California, where for the past several years he has engaged in the development of ideas relating to the diesel industry.

♦ THE American flag was raised for the first time over the University of Hartford General Classroom Building signifying completion of its roof and exterior walls and observance of national Flag Day.

The building, costing more than $2 million, including site work, is the first of twenty structures on 150 acres off Bloomfield Avenue, West Hartford. It is scheduled for completion this fall when many of the University's 10,000 students will begin using on three floors its 125 class, seminar, conference and lecture rooms, laboratories and offices. The building will accommodate 1,000 students at one time.

The flag now waving over the new campus was flown from Washington where it appeared over the National Capitol. Arrangements for the flag



American flag raised over University of Hartford General Classroom Building indicates completion of exterior walls and roof and observance of national Flag Day. From left to right are University Chancellor Vincent Brown Coffin; Austin D. Barney, chairman of University building and development committee and board chairman, Hartford Electric Light Company; Orrin P. Kilbourn, vice general chairman and president, Seven-Up Bottling Company of New Haven and Hartford; and Alfred C. Fuller, chairman of the board, Fuller Brush Company and former president of MAC.

were made through the office of Connecticut Senator Prescott Bush, University Founder.

Austin D. Barney, chairman of University building and development committees and board chairman of Hartford Electric Light Company, who was present for the ceremonies, commented, "Much more has been accomplished than construction of a single building. A separate heating plant has been completed, roads have been built, parking area paved, an underground sanitary system installed and a beginning made on an underground installation for all utilities—electricity, telephones, gas, water and intercommunications system between the further buildings that will be added."

Toward the eastern side of the campus, Mr. Barney pointed out, the Park River has been dammed at a point below the heating plant. In this man-created lagoon there will be built eventually, on an island, chapels of the three major faiths.

Other individuals present for the ceremonies included: University Chancellor Vincent Brown Coffin; Alfred C. Fuller, chairman of University Founders and board chairman of Fuller Brush Company; A. F. Peaslee, founder and general contractor; Charles B. Salsbury, founder and partner, Moore & Salsbury, architects for the University; members of the student council; alumni; and Founders Ernest L. Goff, senior vice president, Associated Spring Corporation, Bristol, who heads Bristol committees, and Mrs. Allen Moore of Kensington, who is the chairman of New Britain committees.

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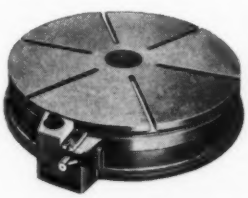

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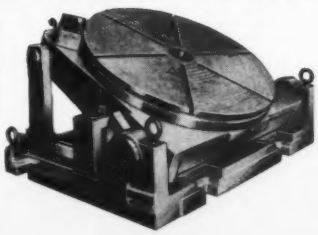

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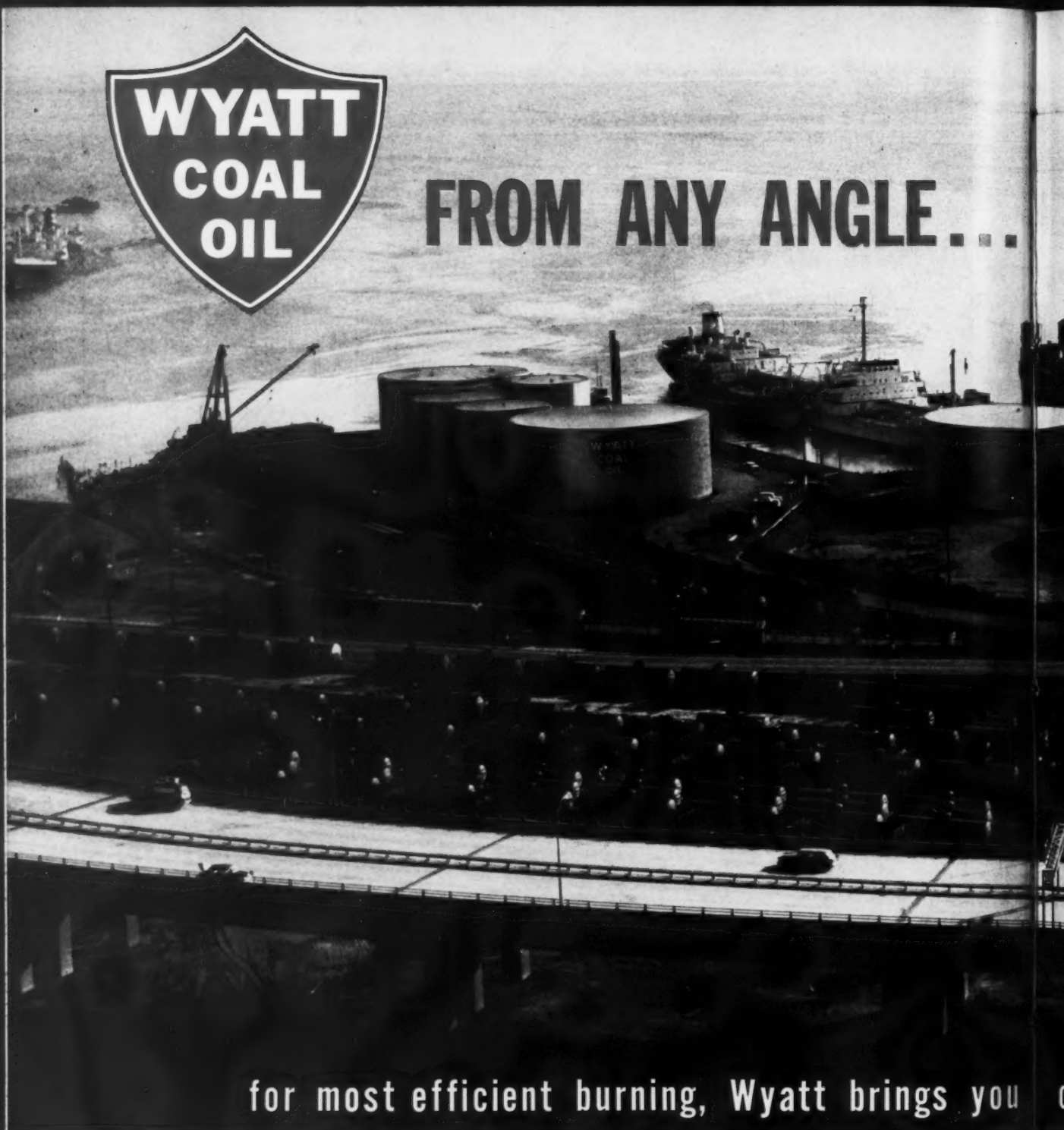

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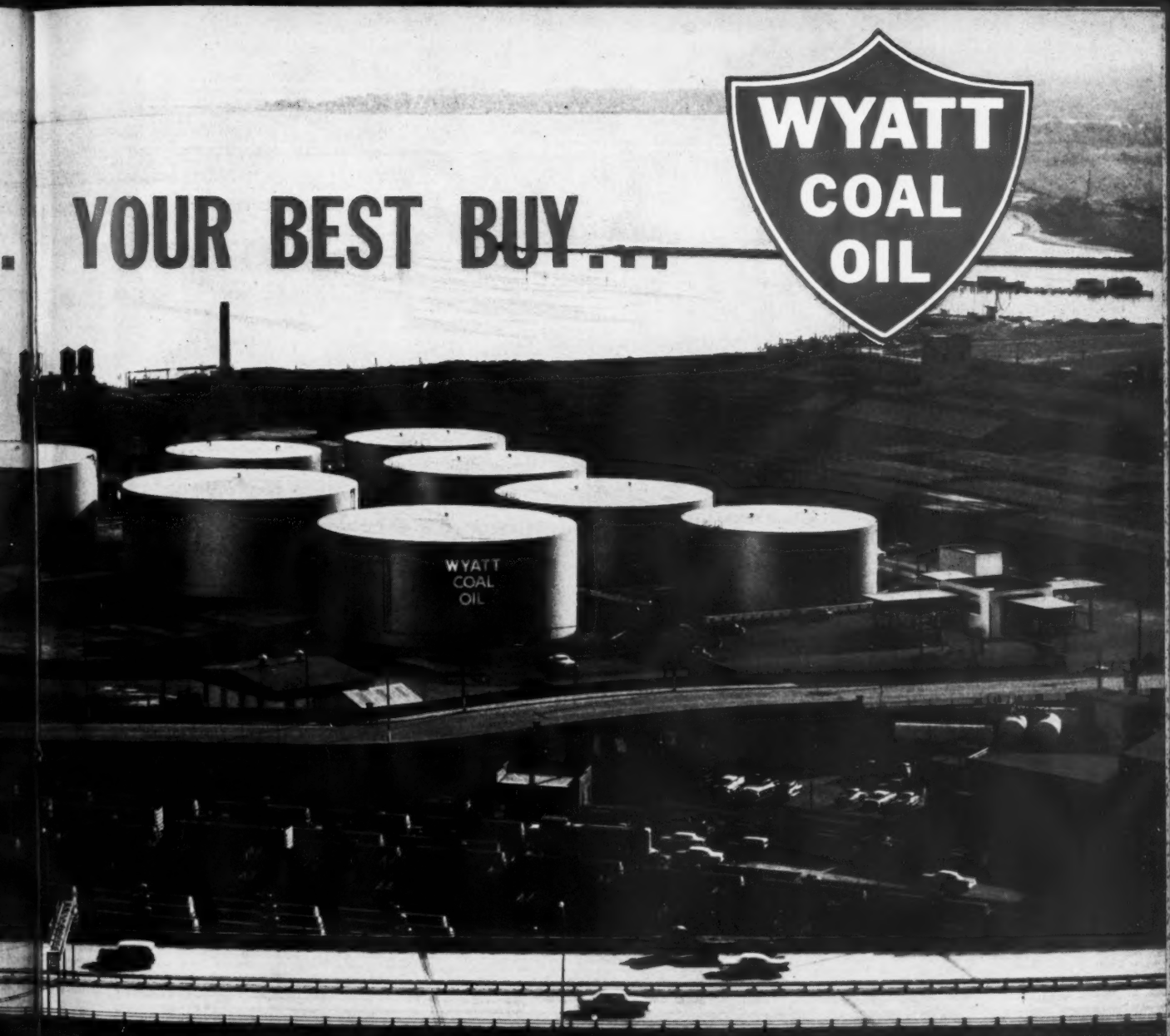

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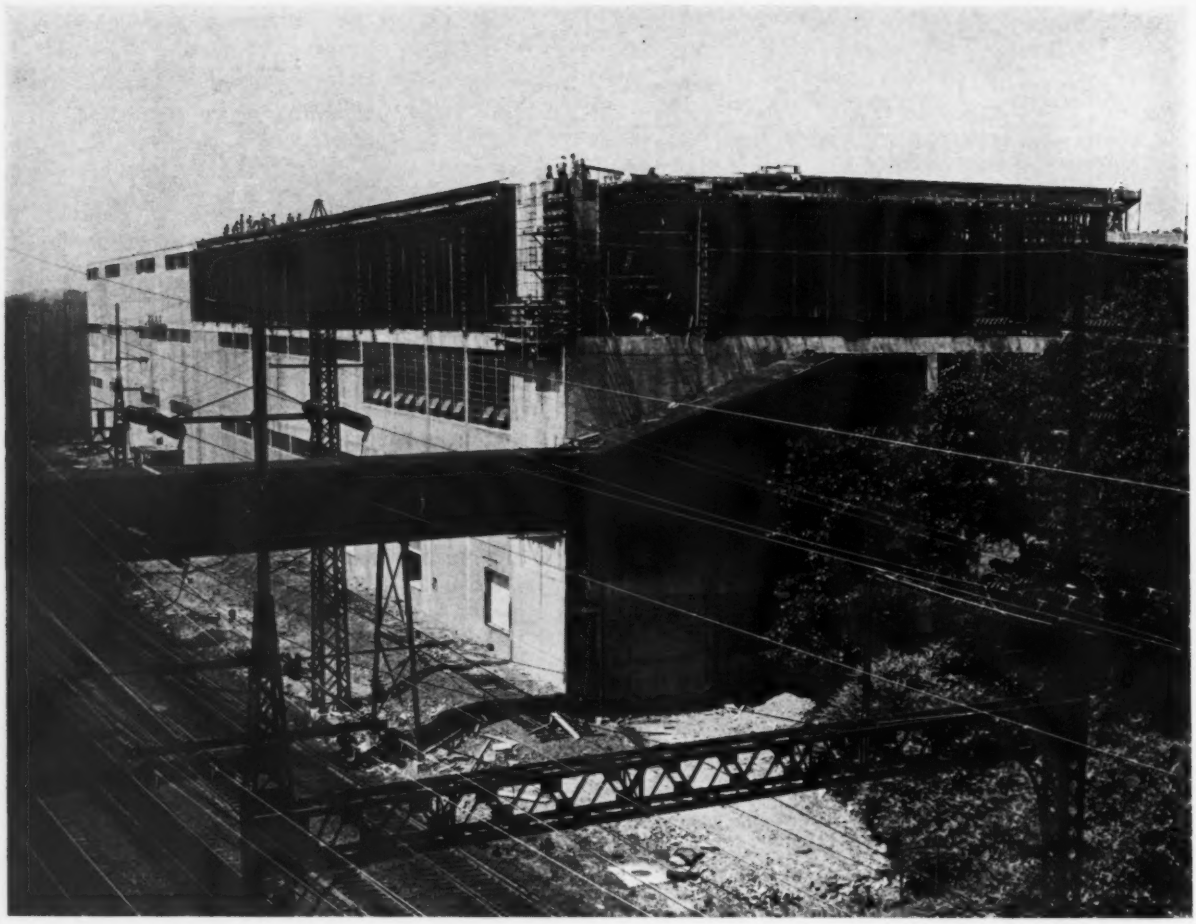

One roof for three -- via Plasticrete Masonry Bloc

PROBLEM: At West Haven, ARMSTRONG RUBBER wanted new warehousing with a capacity of *2½ million tires under one roof* on a 5-acre site just across the tracks from the main plant. This would call for nearly 16 million cu. ft. of storage, distributed over three 23′-high floors of about 200,000 sq. ft. each. But fire insurance companies want unit areas of less than half that size, against the potentially steel-buckling heat that rubber tires can generate, once ignited.

SOLUTION: Each of the three levels was split into thirds, separated from each other by *double walls across the interior*. Each of these dividers presents two 12″ thicknesses of Plasticrete bloc, separated by 2″ of vertical air-space. In fire-retardant effect, this produces the equivalent of three separate warehouses for Armstrong, but retains the obvious convenience and economy of a single roof on a single "home" site.

Of course, the outer walls are of Plasticrete bloc, too (but laid in a single 12″ thickness) to an *overall height of more than 70′ all around* — which is testimony to the structural strength of modern concrete masonry, properly engineered. — Architect, International Associates; Contractor, Worsham Construction, Inc.

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How Would You Decide?

By Fredrick H. Waterhouse
Executive Vice-President

♦ Is failure to strenuously object to a group walk-out tantamount to granting permission to leave in the middle of a shift?

Here's what happened.

Because of a disagreement and dispute with a new foreman, concerning the failure of an employee to follow instructions, a group of employees decided to quit at 2:30 on a shift which ended at 5. The union claimed they were emotionally upset because of the argument. Although no permission to leave was granted, the union steward had asked one of the foremen if it were necessary to have a pass to leave the premises and was told no pass was necessary. The steward relayed this information to the men. Another employee told the foreman the group intended to leave at 2:30. The steward also told the foreman of this intention when he asked whether a pass was necessary. The foreman told the steward that he preferred to have them remain at work but if they wished to leave they could. The men testified that such was what the steward told them. The unit chairman of the union testified he met with the men shortly after they left the plant and there was no question of a walkout, and if there had been he would have sent them back. Also, the men, according to the unit chairman, intended to report for work as usual the next work day but the company sent them telegrams suspending them for three days for taking part in a work stoppage so they didn't report until the suspension was over.

Is the fact that no pass is necessary an implied permission to leave in the middle of a shift?

The arbitration board apparently placed great importance on the fact that the foreman failed to "express firm opposition and protest to the employees' leaving the plant." Also, the fact that they presumably would have requested passes to leave if passes were necessary indicated they were not planning to leave without permission. Furthermore, there was a discussion with the foreman before leaving and the union steward said it was not a walkout. Finally, the steward told the employees they had the permission of the foreman and they left on the basis of that assurance. The board then ruled it was not a walkout and the three day disciplinary suspension was ruled unjustified.

Is an employee always entitled to his regular rate when doing a lower rated job?

Here's what happened.

The contract had the customary clause that when an employee, at the employer's request, is temporarily transferred to a job paying a lower rate than his regular job, he is to be paid the higher rate of his regular job. The company operations required substantial clean-up work on Saturdays when the plant was not operating. For years the grievant, along with others, had reported on alternate Saturdays to perform this clean-up work. The rate for this job was substantially below the rate for his regular job but he, and the others, had always been paid at time and a half the rate for the clean-up job for the time spent Saturdays on that work. The grievant protested that he should be paid time and a half his regular rate under the "temporary transfer" clause above mentioned. The company pointed out that this Saturday work was completely voluntary and the employees were selected in turn by the union officials to do this work, and it had always been treated by all concerned as carrying its own rate.

Was the Saturday work a "temporary transfer" calling for the employee's regular rate?

The arbitrator observed that there was no temporary transfer "at the employer's request" as the employees were not required to leave their regular job to work on a lower rated job. The employees were merely offered the Saturday clean-up work and were free to refuse without fear of any discipline or reprisal. The contract clause was designed to assure the employee his own rate when he is required to leave his regular job on some temporary assignment at the employer's request which was not the situation in this case. The employee was properly paid on the basis of the rate of the clean-up job.

Must the company demonstrate superiority of those it wishes to give super-seniority under a clause authorizing the company to designate a limited number for super-seniority?

Here's what happened.

The contract provided that the union could designate a limited number for super-seniority and that the company could designate a like number to head the seniority list. The company selections were to consist of employees who "because of their special training, or exceptional ability, are deemed by the company to be essential to the continuance of production." The company designated an employee

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to head the seniority list and the union claimed the designation was improper since he was not "essential to the continuance of production." The employee in question had risen to the position of night foreman and had done set-up and production work during a strike and the union claimed the company had promised he would always have a job and so had named him on the super-seniority list when the strike was over. The company did not claim he was the best set-up man or press operator, but that he was the equal of any others and his leadership potential was superior so he was retained to be trained for a foremanship.

Can the union question the company's selection for super-seniority?

The arbitrator ruled that the employee did not have special training or exceptional ability for the job for which he was retained, which the contract says he must have to be given top seniority. The clause in question limited the company's right to grant top seniority to those deemed by the company to be essential to the continuance of production and the company's selection is open to question by the union. Since the company's determination was not based on its claim the employee was a better set-up man he can not be considered essential to the continuance of production and is not entitled to be selected for top seniority merely because he is being trained for foremanship.

This "Co-op" Really Works

(Continued from page 7)

that everything works well, "because they see new business in it for them."

Inter-shipper cooperation also has been a major factor in meeting the 60-40 commodity mixing rule applicable under Plan III piggybacking. "That was an initial problem," Charco officers say. "To get our first Plan III load we had to combine brass and beverages. But with more members and more products we no longer have any difficulty. It's common, now, for our members to work together. One, for example, will ship a floor load of 30,000 lb of brass. The another will top that off with up to 10,000 lb of some other commodity."

By sending all freight via "best service" rail routes, Charco gives its members truck-competitive times — generally second- or third-morning to Chicago, and third- or fourth-morning from there to Los Angeles. "We have virtually no complaints," says one of the cooperative's charter members.

Experience on claims has been equally satisfactory. By confining its operations to common carriers, the cooperative has "full recourse" in event or loss or damage, but it gives its members double protection by carrying its own insurance—an overriding cargo policy of $150,000 per trailer, $300,000 per catastrophe.

Savings accrue on a double basis—an immediate reduction in the rate actually paid, and additional subsequent distribution of operating surplus when accumulated.

The first comes about because Charter Oak charges its members on each shipment a specified amount less than the common carrier rate which would otherwise apply on the same movement. The second results from periodic distribution of available surplus funds, pro-rated to individual members according to their actual dollar volume of Charco-handled shipments. This surplus comes from the difference between what Charco collects and what it actually pays for trailer lease, administration, insurance, and underlying physical carrier service—railroad line-haul and truck pick-up and delivery.

Legally, its offiers say, Charter Oak's operation is that of a completely bona fide cooperative shipping association. It is incorporated as a non-profit organization under Connecticut law, and has been checked out by legal departments of member companies.

Present officers of Charter Oak are Elliott Brauch, warehousing manager of Burndy Corp., Norwalk, president; Felix Szumlaski, traffic manager, Fafnir Bearing Co., New Britain, vice-president; H. S. Wright, traffic manager, Eastern Color Print Co., Waterbury, secretary; and J. B. Griffin, director of traffic, Scovill Manufacturing Co., Waterbury, treasurer. The management agent is J. R. Abbey of Balco Terminals, Inc., of Boston, Mass.

Charco's corporate offices are in West Hartford; its operating headquarters in New Haven.

J. B. Hedges, traffic manager, Manufacturers Association of Connecticut, did considerable work in getting Charco off the ground.

"It's not easy," Charter Oak officers told Railway Age, "to establish a sound, well-working cooperative. We still have our problems, and we don't want to brag.

"We know our service can be improved. But we think we're demonstrating what can be accomplished by men who are willing to look ahead; to be venturesome but not foolhardy; and who are willing to do a lot of hard work.

"What we have accomplished has come from growing one step at a time, watching our costs—and working together."

Taxation

By Charles H. Schreyer, Attorney

The States Battle For Taxes

(Conclusion)

♦ LAST month we broke off our discussion of the problem of state taxation of interstate commerce with the United States Supreme Court decision of last year in the *Stockham Valves* and *Northwestern* cases. While the court made it clear in that decision that under existing law any state may impose an income tax on an out-of-state corporation which maintains a sales office in the taxing state, the decision created fresh confusion by strongly suggesting the possibility that the court might also uphold the right of a state to tax the income of such corporations even where they maintain no office or other establishment in the taxing state; for example, where they solicit business there through traveling salesmen or independent brokers.

This was no answer at all to the many questions which were vexing the business community. As a last resort, business leaders took their grievances to Congress, asking that at the very least this continuing encroachment by the states upon interstate commerce should be brought to a halt at the point which the Court had explicitly sanctioned in the Georgia and Minnesota cases.

In September, 1959, Congress responded to these pleas with gratifying promptness by enacting a law (P.L. 86-272) which forbids a state to tax the income of an out-of-state seller where the only business activity in the taxing state is the solicitation of sales by traveling employees or by independent sales representatives. At the same time, Congress directed the Senate Finance Committee and the House Judiciary Committee to undertake a broad study of the entire problem of interstate taxation of income, and to report their findings to Congress by July 1, 1962.

This means that next year both of these committees will begin public hearings on a subject which is extremely important to all companies with customers in other states. Among other things, these committees may be expected to go into the feasibility of eliminating the double taxation of corporation income, which results from the lack of uniformity in apportionment formulas under state tax laws. This might be corrected by prescribing a uniform apportionment formula that all states which desire to tax income from interstate commerce would be required to use. This is an extremely complicated problem, however, because the adoption of any particular formula could result in a serious depletion of the tax resources of any state whose present formula differs substantially from the uniform formula.

Another topic which we fear will be forced to the top of the agenda of next year's hearings will be the embittered protests of some state tax commissioners that the restrictions imposed upon them by P.L. 86-272 should be removed because they will result in loss of legitimate sources of revenue and constitute an unwarranted infringement on the taxing power of the states. Industry must prepare to meet these arguments head on, if it wishes to avoid the intolerable consequences which would surely follow the grant to the states of an unrestricted *carte blanche* to tax interstate commerce.

Although P.L. 86-272 has furnished some relief in the field of state taxation of interstate income, the sad story of the tax war by states against out-of-state business continues to unfold. A very recent instance is the decision of the Michigan Supreme Court in the *Armco* case that the Michigan business activities tax being closer in nature to an income tax than to a gross receipts tax, may be exacted from the interstate business of an out-of-state seller under the doctrine of the *Stockham Valves* and *Northwestern* cases. Since the Michigan Business Receipts Tax is, in the view of many, more like a gross receipts tax than an income tax (e.g., no deduction for salaries and wages is permitted), the case raises the threat that even taxes on gross receipts from interstate commerce may some day receive the blessing of the courts. This would involve throwing into the discard certain other high court decisions, but this is the kind of difficulty the Court seems to be finding it easier and easier to overcome in the tax field.

As our story began with a sales and use tax case, so it must close with another. Several months ago, the United States Supreme Court held in the *Scripto* case that Florida may require an out-of-state seller to register under the Florida Sales and Use Tax law and to collect the tax from Florida customers, even though he conducts no activities of any kind in Florida, if an independent sales representative in Florida solicits business there on his behalf. This is just about as far as the court can go in holding out-of-state concerns subject to a state's tax laws, although some state tax commissioners are already claiming that the court's decision is broad enough to permit them to impress out-of-state sellers as their tax collectors if they merely solicit business by mail.

As in the case of the *Stockham Valves* and *Northwestern* decisions,

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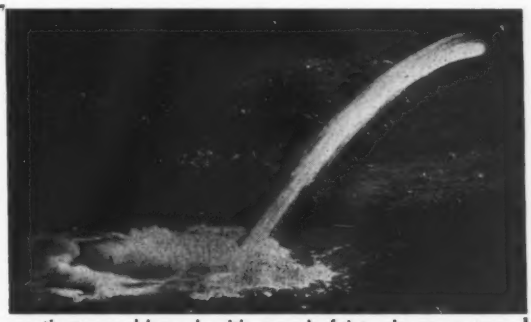

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this most recent pronouncement by the Supreme Court has aroused a storm of protest among manufacturers and other sellers. The protests were particularly vehement in Connecticut where they have prompted Senator Bush and Congressman Daddario to introduce identical bills to amend P.L. 86-272 to grant exactly the same kind of relief from the imposition of a state's sales and use tax requirements upon out-of-state sellers as that law has extended to such concerns in the case of income taxes.

The Senate Finance Committee refused to go into the merits of the Bush bill during the last minute rush for adjournment, but it did recommend to the Senate that the subject of state sales and use taxes should be studied next year by the Congressional committees which had been directed by P.L. 86-272 to study and to make recommendations concerning the subject of state taxation of interstate income. The Senate promptly adopted the committee's suggestion.

As this is written, it is uncertain whether the House will enact this legislation before adjournment this year. Whether or not it does so, it seems safe to predict that the Congressional committees will be almost forced to broaden their inquiry to cover all state taxes imposed upon interstate transactions. The same problems are created by any kind of state tax in this area, and the problems call for the same kind of solution.

In vew of the refusal of the Supreme Court to call a halt to the constantly increasing endeavors of the states to tax businesses located outside their borders, the only answer lies with Congress, possibly by enacting legislation which will clearly mark the limits on the power of states to tax interstate business, perhaps at the line drawn by P.L. 86-272 in the case of income taxes. In any event, next year's committee hearings on this question will be of great significance to industry, because they are likely to result in legislation which, good or bad, will set a pattern with which business must conform for the indefinite future.

The Alcoholic in Industry

(Continued from page 12)

game. He may be crazy but he's not stupid. One rehabilitated alcoholic tells me he was sent to a psychiatrist in the early part of his drinking career but quickly maneuvered his wife into being the patient while he merrily continued on his way.

No one will admit more readily than the rehabilitated alcoholic how very slippery the active alcoholic can be, consequently he is best qualified to avoid the evasive traps and pitfalls. It is once again the old axiom that it takes a thief to catch a thief.

A survey of all our physicians reveals that we have worked with upward of a thousand alcoholics in the 18 years of our active control program. Our physicians have estimated about a 1% incidence of alcoholism in the Company population. It is probably a lower limit estimate for the reasons already advanced. We have had about a 66% rehabilitation rate and of those 95% had received help through A. A.

A. A. is by now such a widespread organization that any industry will have several members already on its payroll, but their anonimity makes it unlikely that they will be known to management.

A flabbergasted Sales Manager sat in my office the other day telling me he had just learned one of his most valued men, who came to light through an obvious slip, had been a member of A. A. for many months.

However, if Management lets it be known that they recognize that some of their employees may be alcoholics, and that Management has a sincere desire to rehabilitate them, expert help will be forthcoming and from the most surprising sources. For they are only too eager to help in any way possible even in establishing the diagnosis. Those who live and work in the community are very apt to know well who are the problem drinkers in the community and the company. The A. A. grapevine is undoubtedly the most efficient (and fastest) form of communication known to man.

Dave receives many letters from A. A. members in other industries all over the world who in gratitude for their own sobriety and the new and gratifying way of life, want to know how they can get their management to become more aware of the problem in their individual industries. They want management to do something about it. Any executive can get tremendous assistance in evaluating the alcoholic problem in his own organization by contacting the local A. A. group. In any event, it would be most enlightening for members of management or supervision, to attend an open meeting of A. A.

Should an employee drink himself to death, commit suicide or only be fired, it is a great comfort to know that we have exhausted every effort to help the man.

Management has a basic duty to the individual, the organization and itself to do everything possible to rehabilitate the alcoholic, and if every other resource fails, to fire him—for that may be the one last desperate resort to save the man's life.

Public Relations

By Charles E. Reiche
Public Relations Director

Suggestion Systems

♦ THE doctrine of suggestion systems is something less than brand new and revolutionary. American industry was using them back in the 1880's.

Today such systems are legion. Further, they have become controversial. Many people believe wholeheartedly in them while others are equally articulate in their condemnation of suggestion programs.

The fact is, however, that more of our most successful companies believe in them than otherwise.

A consensus of companies which have had lengthy experience with suggestion programs indicates that such systems usually fail because they are not regarded as continuing, long-range projects. A company which starts a suggestion system but does nothing in particular to make it interesting and attractive usually will find before very long that it has nothing but empty suggestion boxes on its walls which may be occasionally used as receptacles for waste-paper.

The key to a good suggestion system, regardless of the size of a factory, is the interest which management takes in the program. Management interest, further, should not burn out once the program has been started but should continue to burn brightly as long as the program is in operation.

Basically there are two reasons for having a suggestion system.

In the first place, it can be of realistic, practical value in helping a company. Personnel working in a plant are as ideally placed as anyone can be to determine improved production techniques, cost-saving operations and the like. It is fitting, most companies feel, that some sort of award should be made to employes who can produce ideas which will be helpful.

In the second place, suggestion systems are frequently very valuable as safety valves. They can, in brief, indicate what problems about the plant are disturbing to the personnel and thus can take remedial steps to remove such problems, if this is practical.

Cumulatively, then, suggestion plans offer management a double-barreled tactic whereby the company can be helped by the employes on the one hand and management can be shown how on the other to boost morale.

Here is the way one small Connecticut company handles its suggestion program.

It has nine suggestion boxes spotted at handy locations around the plants. These are emptied once each week and the suggestions turned over to the suggestion committee. This group, by the way, is the key to the success or failure of a suggestion program, most companies agree.

The suggestions are studied thoroughly by the committee (made up of a management man, an office employe and a machinist). Those which are considered meritorious are passed along for final assessment by the department head concerned most intimately with the particular suggestion.

Employes who file suggestions which are considered by the committee important enough to move along for final judgment receive formal notes of commendation from a key management figure. Personnel who accumulate six of these commendatory notes receive tie slides or earrings.

Suggestions which are accepted by the final judging individual or group call for cash prizes to those who submitted them. Until quite recently these prizes took the form of $25 or $50 Savings Bonds. Now the winners are given either amount in cash, depending on the estimated and/or comparative value of a suggestion.

Prize winners are announced every month. This company believes that it is a serious mistake to make anyone who has submitted suggestions wait longer than that to find out how his ideas fared.

Every company involved with suggestion programs stresses that in-plant

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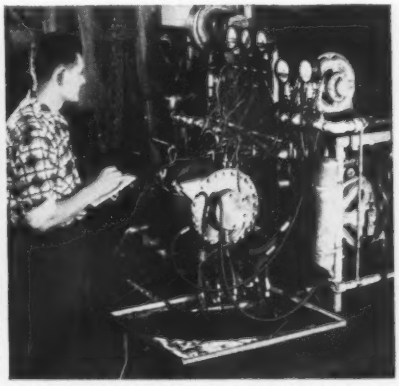

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publicity is very important in the continued success of such plans. Bulletin boards, company publications and public address systems are ideal for such publicity.

Further, out-plant publicity is also strongly recommended, especially via the pages of the local press. Obviously it may be too much to expect that you'll have a photo in your hometown daily once a month with your prize winners. But you should be able to set up a group photo of four or five prize winners three or four times a year.

Two things to keep in mind about suggestion programs:

1) a company which starts one must *follow through* if it expects results; that is, it must be willing to work at it;

2) there is a place for them in large, small and middle-sized industry . . . many of the most successful programs of this kind are now being operated in plants with less than 100 employes.

There is, finally, a hidden dividend which most companies find in the suggestion technique.

It is this: personnel in a plant with such a system gradually develop a state which might be described as problem-minded. That is to say they begin, consciously or otherwise, to have a more penetrating interest in what it is they are doing. The recognition that comes to them as prize suggestioneers plus the fact that they are more and more willing to help in solving factory problems make them ultimately much more valuable members of your team.

And it should be stressed that management gains, just as much as the personnel. Employe relations are bound to improve. Above and beyond that, many companies report savings annually of very impressive size coming out of their suggestion programs.

Computer Services Help Small Business

(Continued from page 14)

culate mathematically the most precise solution to such problems. Until recently, the best he could do was make an educated guess among many alternatives. And the odds were always against his making the *most* economical choice. But now, through the use of computer services, the best solution can be found swiftly and accurately. A high-speed computer can examine all the factors, explore all the possible choices, and come up with the answer that will yield the most profit.

Transportation and Distribution Problems. Illustrative of these problems is a business which operates a fleet of trucks. The manager wanted to find out the most economical routes for them to follow. The factors that had to be considered included among others mileages, traffic congestion, toll roads, and load capacities. In just a few hours, a computer analyzed 10 million possible route combinations and found the best ones. Without a computer, it was estimated that it would have taken 20 years to solve that problem. Obviously during that time the trucker would not have been able to save several thousands of dollars per year as he is now doing.

Similarly, computer services can help manufacturers find out how to ship their products at lowest cost and yet meet marketing requirements.

Management Analysis Problems. Computer services have also helped small businessmen in the field of management analysis and prediction. They have solved such problems as:

(1) Deciding where to locate a new plant or branch, taking into consideration the expected customer demand, transportation, distribution and the many other factors that affect costs and profits;

(2) Deciding whether to make or buy components—which items or parts to manufacture, which to buy, and when;

(3) Evaluating bids—deciding which offering is most desirable when prices, terms and conditions vary among the bidders; and

(4) Forecasting sales and demand—performing market research by determining sales probabilities in different geographical areas for different products.

Many of the techniques used to solve these problems have been developed by the relatively new field of operations research which applies the methods of science to the operating problems of business. Some computer services organizations have operations research experts on their staffs. This combination often has a great appeal for a business which must solve complex problems without hiring a permanent staff of technical specialists.

What Does It Cost?

What will it cost you to take advantage of computer services—to have your problem programmed and solved on a computer? At one end of the scale many large computer manufacturers have formed computer service subsidiaries. They sell computer time at around $650 to $700 per hour. Programming time costs an average of $15 per hour.

At the other end of the scale, small independent computer services firms sell computer time (on the same types of equipment as the big companies use) at around $350 an hour. Programming costs average $15 an hour, but can go down to around $8 an hour for simpler problems. Of course, for recurring problems, where existing programs can be applied to new data, there are no programming costs. A charge is made only for computer running time.

Certain background facts are worth considering in relation to these broad cost ranges. For one thing, large computers are so expensive to buy and become obsolete so quickly that over 90 percent of all computers are rented from the manufacturers, rather than purchased. The rental cost alone can be $500,000 to $800,000 or more a year. One computer services firm with two machines pays $1,350,000 a year in rent. For another thing, the installation and start-up costs for a single machine run around $800,000. Finally, the operating cost for a single machine averages an additional $235,000 a year.

The important question for small firm operators is: "What do computer services cost *in terms of what we get out of them?*" Many companies have found that the answers they got led to profits which more than offset the expense. In such conditions every delay in getting the needed data amounts to a charge against profits.

Some small business owners even consider the typical rates to be a bargain. As one man put it: "For a few thousand dollars in computer service costs, I'm saving many man-months of work, and I've boosted my profits by $10,000 per year.

For Further Information

Businessmen interested in learning more about computers and their applications to business problems may wish to consult the following publications. In keeping with the policy of the series, this list is brief and selective. However, no slight is intended towards authors whose works are not included.

Electronic Data Processing for Business and Industry, by R. G. Canning, John Wiley & Sons, Inc., New York, N. Y. 1956. $7.

An Introduction To Automatic Computers: A Systems Approach for Business, by Ned Chapin, D. Van Nostrand Company, Inc., Princeton, New Jersey. 1957. $8.75.

Special Report—Computers: A Delayed Revolution, Business Week Magazine, June 21, 1958. Reprints available from Reprint Dept., Business Week, 330 West 42nd Street, New York 36, N. Y. 50¢ each.

Companies desiring to make contact with computer services available in Connecticut should write to the editor of Connecticut Industry.

Accounting Hints

Contributed by

The Hartford Chapter National Association of Accountants

The Relationship Between The Supervisor And The Professional Employee

By Edwin L. Davis, Divisional Counsel—Contracts
Pratt & Whitney Aircraft Division
United Aircraft Corporation

♦ WHEN I was first asked to prepare this article, I presumed it would cover some such topic as "How the Lawyer can Assist the Accountant" or "Accounting Information as Evidence." It appeared to me that the article should be quite learned and should demonstrate my profound awareness of the legal problems of the accountant.

I have now become convinced that the professional accountant probably knows his own legal problems at least as well as I do and that to write such an article would be somewhat presumptuous and that the article would probably be rather completely unread.

I have chosen, therefore, to address this article to a problem which confronts many lawyers and many accountants.

The problem, which I have captioned "The Relationship between the Supervisor and the Professional Employee," is basically that of getting things done through people.

It seems to me that the keystone of a good employer-employee relationship on the professional level is the development of positive motivation in the employee. The meaning of "positive motivation" is perhaps best understood by taking an example of a negative motivation: fear.

An employee can certainly be made to produce through fear of losing his job or of incurring other penalties short of such drastic measures or even fear of such a vague and indefinite kind as fear that the boss will get mad.

The person who is afraid plays it safe. The professional employee whose motivation is fear thinks primarily not of ways to help his employer or client but ways to protect himself. He surrounds himself with a morass of alibis and excuses so that he can never be criticized for having done something wrong.

He won't worry about the fact that he never receives credit for having done something right. He is safe. It strikes me that a fear motivated employee is only better than an employee with no motivation at all.

One of the greatest of the positive motivations for the professional employee and one of the most difficult to instill in an employee, if he does not already have it, is the desire to prove to his superior that he is worthy of the trust the supervisor has placed in him. Given an intelligent employee, however, I think this motivation can be instilled in him.

First, and as a hypothesis, the employer must place his trust in the employee. This does not mean that the employer calls in a new employee and tells him he is now trusted. Only a very stupid individual would believe it. It does mean that he actually trusts his employee commensurate with the employee's ability and experience to do his job. It means a true delegation of authority and responsibility to employees.

I can recall one office in which I labored. It happened to be a Government office but it could have been any one of a number of offices. The boss made quite a point of his expectation that each man carry his own weight; but all letters to that office, no matter to whom addressed, no matter what the subject matter, but all letters, were to be acknowledged for his signature.

It worked at first. Every man tried to do such a job that he would eventually be authorized to sign his own mail. When the authorization was not forthcoming at a reasonable time, a new game developed and great sport was had in attempting to get nonsense remarks into the letters without the boss realizing it. Here then was a case of preaching trust but proving by actions that there was no trust.

I believe very strongly then that the

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training of a professional employee should include instructing him in the methods of dealing with clients and other supervisory personnel, under a watchful eye at first and with increasing freedom as he demonstrates his ability. He must be permitted to establish his own relationships with clients and with the other people with whom the office does business. He must be instructed in the right way to do things so that his supervisor can back him up; not just because he is an employee, but because he is right.

An employee must, of course, be told when he is wrong. The method of telling him, I believe, is the clue to the successful relationship of the supervisor with the professional employee. The employee has to realize that his errors are pointed out to him, not for the purpose of humiliating him or of denying him advancement, but as part of the training process. It is also important that, at the same time he is told what is wrong, that he understands what is right.

The personality of the professional employee is also an important factor in developing positive motivation. One professional employee with a studious introverted nature may be able to make a very favorable impression on clients because of the impression he gives of the knowledge available to him. To try to insist that such an employee be a glad-handing extrovert puts the employee out of character and could result in making him completely ineffectual. To emphasize this point, therefore, the employee must be allowed to be himself. It may be that the "self" is not suited for the particular job, in which case, it is a favor both to the employee and to the supervisor that the employee realize this as soon as posible.

Higher management must recognize the effort of the supervisor to raise the level of professional competence of the people working for him. They should be willing to deal with those employees assigned to handle their problems by the supervisor without always insisting that they deal with the supervisor himself.

There is no place in a program of this sort for a supervisor who is afraid of losing his job to one of his employees. The supervisor must realize that it is to his credit to develop employees who are even more capable than he is. The management attitude referred to above will assist the supervisor in realizing this fact.

The employee response to an honest effort to help him to become more useful, more knowledgeable, and more professionally competent is amazing.

The whole scheme for employee development hinges primarily on a willingness, both up and down the line, to permit subordinates to develop into future leaders. The professional employee, I believe, will respond with the best that is in him to a program which he belives is directed toward making him a more valuable employee.

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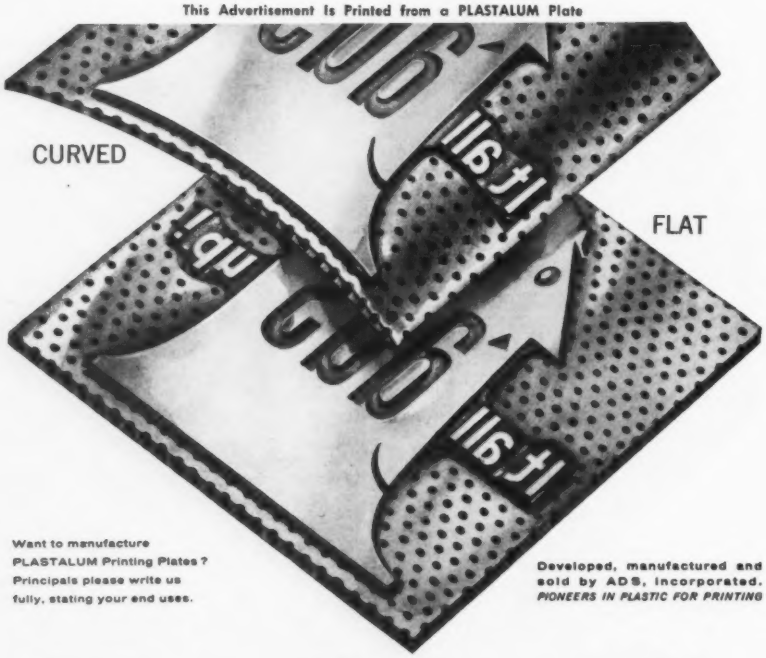

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Business Pattern

A comprehensive summary of the ups and downs of industrial activity in Connecticut for the thirty day period ending on the 15th day of the second previous month.

Business Continues to Decline

♦ IN May, the Connecticut Index fell one point to —5.0%. A gain in construction employment was outweighed by losses in manufacturing employment, average hours and electric power sales.

The U.S. Index dropped three points to + 1.0%. Once again, lower steel production was chiefly responsible.

In June, production employees at seven plants of the United Aircraft Corporation, Connecticut's largest employer, went on strike. As of late June, there had been but few signs that an agreement was in the offing. An increasing number of workers, however, were reporting on the job. In addition, a strike was threatening at the Electric Boat plant in Groton.

These production and payroll losses cannot fail to have a serious effect on the state's economy. Undoubtedly, the Connecticut Index will take a further drop in June.

Labor Turnover

In late 1957 and early 1958, separations exceeded hirings by a wide margin as manufacturers trimmed their payrolls. When business began to improve in 1958, this gap was eliminated and hirings stayed above separations for most of the months until September of last year. After that time, hirings dropped and stayed close to separations until March of this year. Since then, separations have exceeded hirings.

What is the significance of the labor turnover situation? In the first place, the recent trend in terms of the hiring level has given no indication thus far of any early expansion in Connecticut manufacturing employment. Moreover, this is supported by the fact that the layoffs component of total separations is at a relatively high level.

On the other hand, voluntary quitting of jobs is also at a comparatively high rate. This indicates that workers have confidence in their ability to find new employment, presumably in the non-manufacturing sector of the economy.

Connecticut Sales Tax

Although the Connecticut Index of Industrial Activity has not shown any improvement since the first of the year, consumer and business spending set new records in the first three months of 1960.

Connecticut sales tax revenues surged upward to $20.4 million after seasonal adjustment. This topped the old record of the first quarter of 1957 by 5.4% and was 10.5% higher than the first quarter of 1959.

Personal consumption expenditures for the nation as a whole showed a 5.7% increase over the first three months of last year. This was in line with a current forecast that 1960 consumer spending will be almost 6% above 1959.

Based on first quarter receipts, it seems likely that Connecticut sales taxes will show a somewhat greater year to year gain than the 6% predicted nationally. In any event, tax receipts should easily top $80 million, compared with $75.7 million in 1959.

Personal Income

Disposable income is the purchasing power individuals have after paying all federal, state and local government taxes, fines and penalties. Personal consumption expenditures is the amount actually spent. The gap between this and disposable income is personal saving.

Total personal income increased slowly during the first quarter of this year. Then it advanced more rapidly, reaching an annual rate of $399.4 billion in May. The May improvement came in the face of a $500 million drop in payrolls in primary metals industries caused by the steel production slide. Other manufacturing and construction wages and salaries, however, more than took up the slack.

Data for disposable income and consumption expenditures are available only by quarters, but with total personal income continuing up it is probable that second quarter figures will show continued increases.

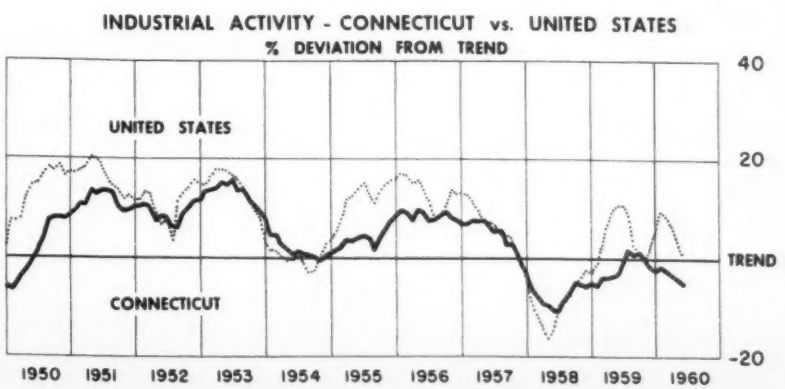
Gains in purchasing power which support higher spending are particularly important now because consumer buying, especially of automobiles and parts, is expected to be one of the important props for business in 1960.

Current forecasts indicate that personal income this year will amount to slightly more than $400 billion. This means that the average for the last seven months is expected to exceed $408 billion annually compared with a $395.4 billion average for the first five months.

Installment Credit

While disposable personal income is the basic source of money for consumer spending, installment credit is an important support for durable goods expenditures. In fact, its importance has been growing in recent years, for extensions of installment credit have increased faster than durables sales.

The burden of installment debt is increasing. Average installment credit outstanding in the first quarter of 1956 was 10.2% of disposable personal income. By the first quarter of 1960, this proportion was up to 11.4%. Despite the heavier load, the repayment record continues to be good.



Fifty Years of Tube Bending

(Continued from page 6)

vital military requirements. Most of the major aircraft manufacturers depended upon the company for fabricating intake pipes, oil lines, ignition shielding and exhaust manifold assemblies. The Bell X-1, the first supersonic plane, had a fuel manifold in its rocket engine made at American Tube. The manifold carried a ton of fuel per minute and sustained over 5000 lbs. pressure per square inch.

Like most revolutionary crafts, the helicopter presented many problems prior to its perfection. During the experimental stages, engineers called on American Tube to help devise muffling systems; these resembled metal pretzels bent and joined to demanding tolerances.

Tubes and tubular forms are used in a variety of applications. To name a few—the subway "strap" has evolved into a properly bent tube; some lightweight airplane luggage incorporates tubular framing; a considerable portion of the automatic pin setter is comprised of tubular parts.

Looking back on the company's history, Henry W. Jones, Jr. observes "Very great refinements in the art of tube bending have developed. Standards of quality and precision have increased tremendously. Industries now demand extremely close tolerances and highly refined metallurgical controls."

Production Facilities

American Tube now serves numerous commercial and military industries. In its two-story, 42,000 square foot area plant, about a hundred employees operate a battery of versatile machines capable of bending tubes from 1/16" to 6" diameter. Trimming, burring, flaring, flanging and beading the tube ends are standard procedures. Welding and brazing are conducted under the most modern methods. Small tube ends can be swaged or sized to limits as close as .0005".

Complete assemblies are thoroughly inspected. Among the equipment found in the inspection room is a hydraulic rig capable of testing up to 10,000 lbs. per square inch pressures. Nondestructive inspection sources—x-ray, magnaflux and fluorescent—are used by American Tube when needed.

A Two Way Look

"We entered the electronic field in its infancy. Perhaps this was only natural since we have always been closely associated with the electrical industry," reasons Mr. Jones, Jr. Among the many jobs performed for electrical equipment manufacturers was the shaping of rectangular shaped tubes through which power is fed into apartment houses. Three inch configured tubes have also been provided for large generators. The tube acts as a conductor, a constant oil flow is maintained within the tube as a coolant to prevent melting from the intense heat generated by the current.

In 1946, Henry W. Jones, III became associated with the company. To learn the various operations and become thoroughly familiar with the firm's precedures, he began as a trainee and held other positions until he was elected vice president and secretary in March 1955. The task of maintaining contact with customers, visiting installations or attending missile and rocket launchings, where American Tube had a hand in their realization, falls largely to the younger member of the Jones family. Both Joneses, however, son and father, use the company plane. This not only facilitates travel but provides faster service for customers.

(Concluded on page 44)

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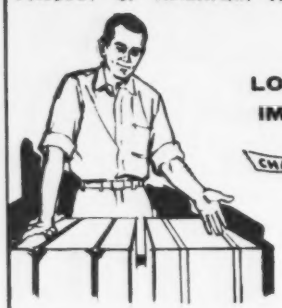

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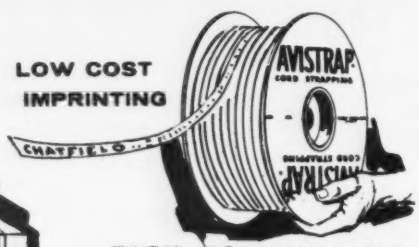

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Spotlight on the Future

Contributed by National Association of Purchasing Agents
By Chester F. Ogden, Manager of Purchases
The Detroit Edison Company

General Business Conditions

♦ BUSINESS continues on a plateau. Generally, it remains satisfactory, while, at the same time, it is still not living up to earlier rosy predictions.

Our production and new order figures reflect the "leveling off" phase we are in. As has been the case in both of these categories for the past five months, the number of our members reporting improvement are just about offset by those reporting declines. This month, in telling of new orders, 27% report an increase, while 26% report a decline. Similarly, 24% say production for their company has increased, and 22% say it has been reduced.

No great change has taken place in our other Business Survey criteria. Employment is a little less good than last month. Inventories continue to diminish, but there are indications that we are nearing the low point. Commodity prices are softening as the result of keen competition and the development of a real buyers' market. Buying policy remains cautious, and there is definite evidence that most Purchasing Executives are holding their forward commitment time to a minimum.

While this status quo situation apparently exists in domestic business conditions, the international situation grows increasingly tense. With the collapse of the Summit Talks and anti-U.S. feelings being vented in several foreign countries, we decided to poll our members to see if these conditions were affecting their procurement programs. Not a bit, said an overwhelming 95%. In fact, 13% are still following an aggressive policy of further shortening of lead time. Only 5% said possible shortages of materials obtained from abroad or shortages caused by domestic requirements for defense purposes, were causing them to extend forward commitments to protect future needs.

Commodity Prices

The "downs" passed the "ups" this month. More of our reporters said prices were down this month than reported them up. This is the first time this has happened since February, 1958. Reporting prices lower this month were 13%, compared with 11% who said they were up. The bulk, 76%, noticed no change. It is safe to report now, based on our Business Survey charts, that prices are softening and that this trend has continued for several months.

Inventories

Inventory liquidation continues. Again this month, there are substantially more Purchasing Executives reporting lower inventories (31%), than there are telling of increased stocks on hand (18%). One of the reasons quite frequently given for continuing reductions in purchased materials' inventories is the offsetting increasing inventories of finished goods. It is definitely uneconomic to have both of these inventories high. There are a substantial number of our reporting members who feel the bottom has about been reached.

Buying Policy

Here, there is practically no change. The threat of a step-up in the cold war and the demonstrations of anti-U.S. feeling in some foreign countries, have had little effect in causing Purchasing Executives to alter their buying plans.

Specific Commodity Changes

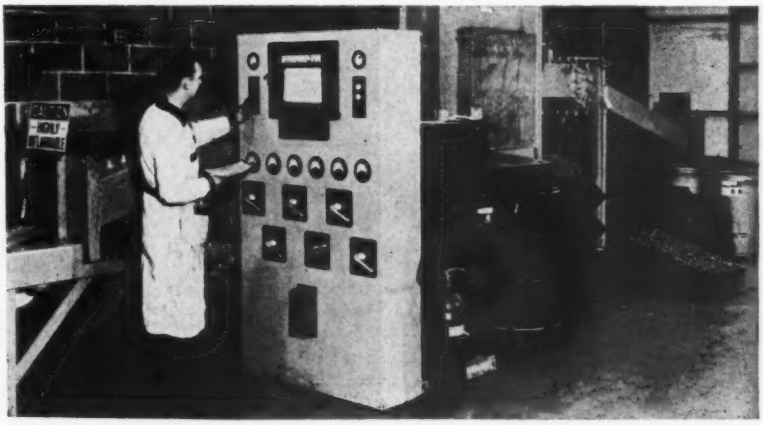
Price flucuations are noted this month in some highly seasonal items, such as fresh vegetable and dairy products in those geographic areas where climate affects crops and grazing. These are not reported below, since they do not constitute general trends, up or down.

On the *up* side are: Raw sugar, gasoline, some petroleum oils, phthalic anhydride and plasticizers, and multiwall bags.

On the *down* side are: Steel scrap, lumber, large electrical equipment, and steel drums.

In *short* supply are: Maleic and phthalic anhydrides.

(Composite opinion of purchasing agents who comprise the N.A.P.A. Business Survey Committee, whose chairman is Chester F. Ogden, Vice President, The Detroit Edison Company, Detroit, Michigan)



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Pause For Reflection

By Edward W. Greenfield

Ed Note—Never before in the lifetime of our Republic has there been so desperate a need for genuine thinking among all citizens, and particularly among business, political, professional and labor leaders. And never before has there been such a profusion of demands upon our time, and so many people well intentioned and otherwise, offering us such a wide variety of "packaged thinking" in the mental super markets of the popular press, radio, television and book marts. As a stimulus to taking "time out," CI will publish on an intermittent basis some of the thought primers by Mr. Greenfield which appear on this page.

Think-A-Thon

♦ It's exciting to see an idea grow and take hold. The idea is as old as civilized history, but in modern preoccupation with other things, this column has been one of the few to encourage "pausing for reflection."

Robert Frost recently took up the theme, and through him it reached a seventh-grade teacher in Los Angeles. The teacher introduced it to her class—and now a roomful of 12-year-olds sets aside part of each day for meditation.

They call it a "Think-a-thon," and its purpose is to train young minds for creative thinking. The thoughts emerging from their pauses range from whimsey to wisdom. Some are paste, some are pearls. But the exciting thing is that youngsters are learning to respect meditation!

Said one of the boys in this remarkable class: "We live in a time when new ideas are thought of every day. Many of these ideas are based on the great thoughts of the past, but we have to think them over and over again if we are to learn anything from them."

Has it ever been said better? This young teacher and class have started something! Who knows—pausing for reflection may be the discipline that starts a new day for mankind! Try it!

Clear It With Khrushchev!

Meet the new kingmaker in American politics! His name is Nikita!

What might have happened had the Summit succeeded or never been scheduled, it is useless now to surmise. But its collapse has already hurled an awesome new issue into the American political campaign. It is this: "How will the candidate get along with the Kremlin?"

Watch what develops, and see if more and more the point is not made: Candidate X will keep Nikita happy; Candidate Y will send him into a tizzy! Our man believes in buttering Nikita up; their man believes in battering him down! Vote for Candidate X. He is endorsed by Nikita Krushchev!

It will never be put so bluntly, of course. It will be concealed in a bouquet of verbiage that praises peace and denounces war. It will speak of toughness as "blundering" and appeasement as "statemanship." It will refer to the slow surrender of freedom and national integrity as "preparing for life in the space age."

However it goes, it will be pitched to the theme of avoiding Nikita Krushchev's displeasure. Who and what will please Nikita is primed and ready to become our national obsession. . . .

Please pray that I'm mistaken! . . .

Rebels For Which Cause?

Explaining a poor issue in a recent ad published in college newspapers, Life magazine complained: "The magazine can't be blamed. Nothing happened last week. For ——— sake go out and do something!"

And it looks as though the present student generation IS doing something. All over the world they are erupting into rallies and riots, and bidding fair to change the course of history! It's a radically different face that students are presenting after it looked as though the most daring thing we could expect from them was "pantie raids."

From "rebels without a cause," they are moving into causes they will fight and even die for. What a refreshing change from those sorry samples of youth properly called "beat"!

Let's not worry because the young are rebellious. The "instinct of rebellion" is one of the dynamic drives of all human progress. To see "a rebel with a cause" is to see someone who is alive, eager, dedicated, aware.

Except—in what cause are they rebelling? That the young will still fight, for convictions is encouraging—but, in the crucial war of ideologies, which convictions? The Life advertisement said profanely what ought to be said as a prayer: "For CHRIST'S sake, go out and do something!" If it isn't Christ and all the freedom principles He stands for, it will be the Kremlin!

No Religious Issue?

When Kennedy won so decisively in West Virginia, the "Religious Issue" was supposedly put on ice, where many said it should have been from the first. I submit that the real religious issue hasn't even been faced!

Somehow we have confused a candidate's religion with his church. Saying he is Congregational, Catholic, Presbyterian, Quaker, or Whatnot tells us very little any more. A sad fact of our time is that a man's church does NOT mean enough to make a difference.

Yet his RELIGION, or lack of it, can make all the difference in the world, as witness Nikita Krushchev. The most important thing to know about any man is the state of his religion! Not what church he belongs to, but what god he serves!

Does he believe force can do the works of love? How much respect has he for the rights, the dignity, the freedom of individuals? How much integrity, how much loyalty to his country's ideals, how much stability of character? Most of all, what does he believe about the relation between God and Caesar? Has Caesar perhaps become his god?

These are questions we don't even ask! These are questions that are not answered by the name of a man's church. Yet these are the questions upon whose answers the destiny of our nation depends!

Fifty Years of Tube Bending

(Continued from page 42)

Mr. Jones, Jr. enjoys flying, but also the benefits provided by terra firma. He likes to hike and ruminate on world problems. He belongs to an "informal hiking club," is an expert photographer and a member of a "Kelly Pool and Philosophical Association" where, he remarks, "We play Kelly Pool and discuss philosophy, world politics and economics."

In prognosticating about the future, he observes, "Like the probings into space, the future applications of tubes and cables are unlimited. We are embarking on a whole new era of electronics, spacecraft and related technology . . . And American Tube will continue to serve the industries' needs."

PRODUCTS AND SERVICES

THIS department, formerly listing only products made in Connecticut (from 1937 through 1959) is now available for listing not only products made in the state but also services available to industry through management, technical, research or other service organizations located in Connecticut.

Listing rate, $6.00 per listing for 12 monthly insertions, effective with the February 1960 issue. Listings are payable annually, in advance, or within 30 days after their first insertion.

Abrasives
Fuller Merriam Company The (Vitrified, Resinoid Bonded Grinding Wheels & Segments) West Haven

Abrasive Adhesives
Scovil, Inc., D & H (for polishing metals, etc.) Higganum

Absorbents
Nielsen & Sons Inc. John R. (oil water and grease) South Windsor

Accounting Forms
Baker-Goodyear Co The Branford

Accounting Machine Cards
Connecticut Printers, Inc. Hartford

Adding Machines
Underwood Corporation Hartford

Adhesives
Polymer Industries Inc Springdale
Raybestos Division Raybestos-Manhattan Inc Bridgeport

Advertising Mats
Ads Inc Div CSW Plastic Types Inc (plates, services) Rocky Hill
Lockwood Sons Inc Wm H Hartford

Advertising Agencies
Brunelle Co., The Charles Hartford
Jimford Advertising Agency Durham
Langeler-Stevens, Inc. Orange
Moore and Co., Inc. Stamford
Robotham Co., The Edward W. (industrial) Westport
Shenton Co., K. C. (industrial marketing) Hartford
Watson-Manning Advertising (industrial and technical) Stratford

Advertising Plates
Lockwood Sons Inc Wm H Hartford

Advertising by Representation
Hartz-Miller Associates Meriden

Air Compressors
Spencer Turbine Co The Hartford

Air Conditioning Contractors
Salmini Co., Inc., J. P. Milford

Air Conditioning Products
Dunham-Bush Inc West Hartford

Air Ducts
Wiremold Co The (Retractable) Hartford

Air Heaters—Direct Fired
Peabody Engineering Corporation Stamford

Air Impellers
The Torrington Manufacturing Co. Torrington

Air Cylinders
Cushman Chuck Co. Hartford

Aircraft
Sikorsky Aircraft Division United Aircraft Corporation (helicopters) Bridgeport

Aircraft Accessories
Chandler Evans Corporation (Piston and Jet Engine Accessories—Carburetors, Fuel Controls, Afterburner Regulators, Pumps, Servomechanisms and Protek—Plug Dehydrator Agents) West Hartford
Consolidated Controls Corp. (pressure & temperature controls) Bethel
Fenn Mfg Co The (Hardened and Ground Gear assemblies) Newington
Gabb Special Products Inc (filler caps—pressure fuel servicing systems) Windsor Locks
Hamilton Standard Div United Aircraft Corp (propellors and other aircraft equipment) Windsor Locks

Aircraft Engine Timing Tools
Gabb Special Products Inc Windsor Locks

Aircraft Engine Details
American Standard Products, Inc. Hartford
Hartford Machine Screw Co Div of Standard Screw Co Hartford
New Haven Trap Rock Co The Machine Products Div North Branford
Tag Alloy Welding & Mfg. Co., Inc. (weldments) Glastonbury

Aircraft Engines
Lycoming Division Avco Manufacturing Corp Stratford
Pratt & Whitney Aircraft Div United Aircraft Corp (aircraft) East Hartford

Aircraft Fasteners
American Standard Products, Inc. Hartford
Hartford Machine Screw Co Div of Standard Screw Co Hartford
Scovill Manufacturing Company (PANELOC Aircraft Fasteners) Waterbury

Aircraft Instruments
Aeronautical Machinists, Inc. (servo mechanisms & pressure switches) Bridgeport
Gorn Electric Company Inc Stamford
Lewis Engineering Co., The Naugatuck

Aircraft Nuts
McMellon Bros., Inc. Bridgeport

Aircraft—Repair & Overhaul
Airport Department Pratt & Whitney Aircraft Division Rentschler Field East Hartford

Aircraft Studs & Bolts
American Standard Products, Inc. Hartford
Hartford Machine Screw Co Div of Standard Screw Co Hartford

Aircraft Wire & Cable
Lewis Engineering Co., The Naugatuck

Aircraft Test Equipment
United Manufacturing Co Division of The W L Maxson Corp Hamden

Alumilite Aluminum Sheets
Leed Co The H A Hamden

Aluminum Awnings
Norlee Aluminum Prod Corp Bloomfield

Aluminum—Bar, Rod, Sheet, Plate
Frasse & Co Inc Peter A Hartford

Aluminum Bronze Castings
Knapp Foundry Company Inc Guilford

Aluminum Castings
Eastern Malleable Iron Company The Naugatuck
Newton-New Haven Co West Haven

Aluminum Die Castings
Mt Vernon Die Casting Corporation Stamford
Peasley Products, Inc. Stratford
Peerless Aluminum Foundry Co Inc (permanent mold) Bridgeport
Stewart Die Casting Div. Stewart-Warner Corp Bridgeport

Aluminum Foil
Republic Foil, Inc. Danbury

Aluminum Forgings
Consolidated Industries Inc West Cheshire
Scovill Manufacturing Company Waterbury

Aluminum Ingots
Batchelder Co., Inc., Charles Newtown
Lapides Metals Corp New Haven

Aluminum Sand Castings
Bridgeport Deoxidized Bronze Corp Bridgeport
Peerless Aluminum Foundry Co., Inc. Bridgeport

Aluminum—Sheet and Rod
Scovill Manufacturing Company Waterbury

Aluminum—Sheets & Coils
United Smelting & Aluminum Co Inc New Haven

Aluminum Windows
Norlee Aluminum Prod Corp (combination and prime) Bloomfield

Ammunition
Remington Arms Co., Inc. Bridgeport

Anodic Coating
Fenn Mfg Co The (Dow 17) Newington

Anodizing
All-Brite Chemical Corp. Watertown
Aluminum Finishing Co Bridgeport
Contract Plating Co., Inc. Stratford
Leed Co The H A Hamden
Stamford Polishing & Plating Corp. Stamford

Anodizing Equipment
Enthone Inc New Haven

Asbestos
Auburn Manufacturing Company The (gaskets, packings, wicks) Middletown

Asarcon Bronze
Derby Castings Company The Seymour
Knapp Foundry Company Inc (bushing & bearing stock) Guilford

Assemblies—Small
American Standard Products, Inc. Hartford
Barnes Co The Wallace Div Associated Spring Corp Bristol
Greist Manufacturing Co The New Haven
Hartford Machine Screw Co Div of Standard Screw Co Hartford
Stanley Humason Inc Forestville
J H Sessions & Son Bristol

Audio-Visual Equipment
HB Motion Picture Service (rental & service, projection and sound) New Haven
Victor Animatograph Corp a div of Kalart (16mm sound and silent projectors; 35mm filmstrip and sound slide film projectors) Plainville

Automatic Buffing & Polishing Machines
Harper Buffing Machine Company The East Hampton

Auto Cable Housing
Wiremold Company The Hartford

Automatic Assembly Machines
Sperry Products Inc Danbury

Automatic Control Instruments
Bristol Co The (temperature, pressure, flow humidity, time) Waterbury

Automobiles—Children's
Powercar Company Mystic

Automotive Bodies
Metropolitan Body Company Bridgeport

Automobile Leasing
Motorlease Corporation, The West Hartford

Automotive Parts
Bridgeport Thermostat Div Robertshaw—Fulton Controls Co (automobile thermostats) Milford
Echlin Mfg Co The (Ignition & Brake) Branford
Eis Automotive Corp. (Hydraulic Power and Mechanical) Middletown
Raybestos Division of Raybestos-Manhattan Inc (Brake Lining, Lined Brake Shoes, Clutch Facings, Automatic Transmission Parts, Fan Belts, Radiator Hose and Miscellaneous Rubber) Bridgeport
Terryville Manufacturing Co (Stampings for automotive parts) Terryville

Automatic Polishing and Buffing Equipment
Packer Machine Company Meriden

Automotive Tools
Eis Automotive Corp (Brake Tools) Middletown

Bag Sealing Machines
Derby Sealers Inc — Derby

Bakelite Moldings
Watertown Mfg Co The — Watertown

Balls
Abbott Ball Co The (steel bearing and burnishing) — Hartford
Kilian Steel Ball Corp The — Hartford
New Departure Div of General Motors (steel and steel alloys) — Bristol
Pioneer Steel Ball Company Inc (steel for bearings, burnishing, graining; also brass, bronze and stainless) — Unionville
Superior Steel Ball Co Inc (steel bearings & burnishing material) — New Britain

Band Saw Machines
Thompson & Son Co., The Henry G. (automatic cut-off) — New Haven

Barrels
Abbott Ball Co The (burnishing and tumbling) — Hartford
Enthone Inc (tumbling) — New Haven
Esbec Barrel Finishing Corp (burnishing & tumbling) — Byram

Baskets—Wire
Rolock Inc — Fairfield

Bead Chain
Bead Chain Manufacturing Co The — Bridgeport

Beaded Chain
Auto-Swage Products, Inc. — Shelton

Bearings
Automation Bearings (ball & spherical) — Bridgeport
Barden Corporation The (ball) — Danbury
Fafnir Bearing Co (ball) — New Britain
Marlin-Rockwell Corporation — Plainville
New Departure Div of General Motors (ball) — Bristol
Norma-Hoffman Bearings Corp (ball and roller) — Stamford
Torrington Co The — Torrington

Bellows Assemblies
Bridgeport Thermostat Div Robertshaw—Fulton Controls Co — Milford

Bellows—Metallic
Bridgeport Thermostat Div Robertshaw—Fulton Controls Co — Milford

Bells
Bevin Brothers Mfg Co — East Hampton
N N Hill Brass Co The — East Hampton

Belting
Hartford Belting Co — Hartford
Russell Mfg Co (High Speed Endless, Laminated Rubber, Roll Stock all types) — Middletown

Bends—Pipe or Tube
National Pipe Bending Co The — New Haven

Bicycle Sundries
Torrington Co The — Torrington

Blacking Salts for Metals
Du-Lite Chemical Corp — Middletown
Enthone Inc — New Haven
Mitchell-Bradford Chemical Co — Milford

Black Oxide Finishing
Black Oxide Inc — New Britain

Black Oxide Treatment
Bennett Metal Treating Co The — Elmwood

Blades
Capewell Manufacturing Company Metal Saw Division (hack saw and band saw) — Hartford

Blast Cleaning Equipment
Pressure Blast Mfg Co Inc (Wet and Dry and Abrasives) — Manchester

Blocks
Howard Company (cupola fire clay) — New Haven

Blower—Centrifugal Type
Spencer Turbine Co., The — Hartford

Blower Fans
Colonial Blower Company — Plainville
Spencer Turbine Co The — Hartford

Blower Systems
Colonial Blower Company — Plainville
Ripley Co — Middletown
Ventilating Supplies Inc — Plainville

Blower Wheels
Torrington Manufacturing Company The — Torrington

Blueprints and Photostats
Joseph Merritt & Co — Hartford

Blue Printing Machines
Rotolite of New England — Glastonbury

Boilers
Bigelow Co The — New Haven

Bolts and Nuts
Clark Brothers Bolt Co. — Milldale
Hartford Machine Screw Company Div of Standard Screw Co — Hartford
Torrington Co The — Torrington

Boring Tools
Atrax Company The (solid carbide) — Newington

Bottles
Feldman Glass Co The — New Haven

Box Board
Bird & Son Inc — New Britain
Continental Can Co Boxboard and Folding Carton Division — Montville
Federal Paper Board Co Inc — Montville, New Haven & Versailles
Lydall & Foulds Paper Co The — Manchester
New Haven Board & Carton Co The — New Haven
Robertson Paper Box Co — Montville

Boxes
Bird & Son Inc (corrugated, solid fibre, cleated containers) — New Britain
Connecticut Container Corporation — New Haven
Continental Can Co Fibre Drum and Corrugated Box Division — Portland
Merriam Mfg Co (steel cash, bond, security, fitted tool and tackle toxes) — Durham
Warner Bros Co The (Acetate, Paper, Acetate and Paper Combinations, Counter Display, Setup) — Bridgeport

Boxes and Crates
City Lumber Co of Bridgeport Inc The — Bridgeport

Boxes—Folding
Leshine Carton Co — Branford

Boxes—Metal
Durham Mfg Co — Durham
Merriam Mfg Co (Bond and Security, Cash and Utility, Personal Files and Drawer Safes) — Durham
Scovill Manufacturing Company (aluminum, brass, bronze, copper-cosmetic, drug, hair pin, ointment, pill, powder, rouge, vanity) — Waterbury

Boxes—Paper—Folding
Atlantic Carton Corp — Norwich
Bridgeport Paper Box Co — Bridgeport
Carpenter-Hayes Paper Box Co Inc — East Hampton
Continental Can Co Boxboard and Folding Carton Division — Montville
Curtis & Sons Inc S — Sandy Hook
Folding Cartons Incorporated (paper, folding) — Versailles
Mills Inc H J — Bristol
National Folding Box Co Div Federal Paper Board Co Inc (paper folding) — New Haven and Versailles
New Haven Board & Carton Co The — New Haven
Robertson Paper Box Co — Montville
Warner Bros Co The — Bridgeport

Boxes—Paper—Setup
Bridgeport Paper Box Co — Bridgeport
Heminway Corporation The — Waterbury
Mills Inc H J — Bristol
Strouse Adler Company The — New Haven
Warner Bros Co The — Bridgeport

Brake Cables
Eis Automotive Corp — Middletown

Brake Linings
Raybestos Division of Raybestos-Manhattan Inc (Automotive and Industrial) — Bridgeport
Russell Mfg Co (all types, Fused Fabric, Durak, Wireback, Extruded) — Middletown

Brake Service Parts
Eis Automotive Corp — Middletown

Brass & Bronze
American Brass Co The (sheet, wire, rods, tubes) — Waterbury
Bridgeport Rolling Mills Company (coil, sheet, strip) — Bridgeport
Bristol Brass Corp The (sheet, wire, rods) — Bristol
Chase Brass & Copper Co — Waterbury
Miller Company The (phosphor bronze and brass in sheets, strips, rolls) — Meriden
Plume & Atwood Mfg Co The (sheet, wire, rod) — Thomaston
Scovill Manufacturing Company — Waterbury
Tinsheet Metals Co The (sheets and rolls) — Waterbury

Brass & Bronze Ingot Metal
Mitchell Smelting & Refining Co Inc — Botsford
Plume & Atwood Mfg Co The — Thomaston
Whipple and Choate Company The — Bridgeport

Brass, Bronze, Aluminum Castings
Coggins Mfg. Co., The J. B. — Meriden
Derby Castings Company, The — Seymour
Victors Brass Foundry Inc — Guilford

Brass Goods
American Brass Company The — Waterbury
Plume & Atwood Mfg Co The (to order) — Waterbury
Rostand Mfg. Co The (Ecclesiastical Brass Wares) — Milford
Scovill Manufacturing Company (to order) — Waterbury

Brass Mill Products
American Brass Company The — Waterbury
Chase Brass & Copper Co — Waterbury
Plume & Atwood Mfg Co The — Thomaston
Scovill Manufacturing Company — Waterbury
Seymour Manufacturing Co The — Seymour

Brick-Building
Donnelly Brick Co The — New Britain
Stiles Corp subsidiary of Plasticrete Corp — North Haven

Bricks—Fire
Howard Company — New Haven
Mullite Works Refractories Div H K Porter Co Inc — Shelton

Bright Wire Goods
Sargent & Company (Screw Eyes, Screw Hooks, Cup Hooks, Hooks and Eyes, C H Hooks) — New Haven

Bronze & Aluminum Castings
Knapp Foundry Company Inc (rough or machined) — Guilford

Bronze Sand Castings
Bridgeport Deoxidized Bronze Corp — Bridgeport

Brooms—Brushes
Fuller Brush Co., The — East Hartford

Buckles
Hawie Mfg Co The — Bridgeport
North & Judd Manufacturing Co — New Britain
Patent Button Co The — Waterbury
Risdon Manufacturing Co John M Russell Div — Naugatuck

Buffing & Polishing Compositions
Apothecaries Hall Company Division The Hubbard Hall Chemical Company — Waterbury
Lea Mfg Co — Waterbury

Burglar Alarm Systems
Mosler Research Products, Inc. — Danbury

Burners
Plume & Atwood Mfg Co The (kerosene oil lighting) — Thomaston

Burners—Automatic
Peabody Engineering Corporation — Stamford

Burners—Coal and Oil
Peabody Engineering Corporation (Combined) — Stamford

Burners—Gas and Oil
Peabody Engineering Corporation (Combined) — Stamford

CONNECTICUT PRODUCTS AND SERVICES

Burners—Refinery
Peabody Engineering Corporation (For Gas and Oil) Stamford

Burnishing
Abbott Ball Co The (Burnishing Barrels and Burnishing Media) Hartford
Pioneer Steel Ball Company Inc (balls, cones, other metallic shapes) Unionville

Burs
Atrax Company The (carbide) Newington
Pratt & Whitney Co Inc (carbide and HSS) West Hartford

Business Forms
Connecticut Manifold Forms Co The West Hartford

Business Counsellors
Wirth Management Company Wilton

Buttons
Frank Parizek Manufacturing Co The Putnam
Schwanda & Sons, B. (ocean pearl and plastic) Staffordville
Scoville Manufacturing Company (Uniform and Tack Fasteners) Waterbury
Waterbury Companies Inc (Uniform and Fancy Dress) Waterbury

Button Head Socket Screws
Holo-Krome Screw Corp. West Hartford

Cabinet Work
Hartford Builders Finish Co Hartford

Cable—Asbestos Insulated
Rockbestos Wire & Cable Co Div Cerro de Pasco Corp New Haven

Cable-Interlocked Armor
General Electric Company Bridgeport

Cable—Nonmetallic Sheathed
General Electric Company Bridgeport

Cages
Hendryx Co The Andrew B (bird and animal) New Haven

Cams
American Cam Company Inc Hartford
Bristol Instrument Gears, Inc. Forestville
Hartford Special Machinery Co The Hartford
Rowbottom Machine Company Inc Waterbury

Cams, 2 Dimensional
Mallory Industries Inc West Hartford
Parker-Hartford Corporation Hartford

Cams, 3 Dimensional
Mallory Industries Inc West Hartford
Parker-Hartford Corporation Hartford

Capacitors
Electro Motive Mfg Co Inc The (mica & trimmer) Willimantic

Carbide Dies
National Die Co., Inc., The Wolcott

Carbide Form Tools
Somma Tool Co. (for automatic screw machines) Waterbury

Carbide Shape Dies
Thomaston Tool & Die Co (any form) Thomaston

Carbide Tools
Atrax Company The (solid) Newington
Precision Tool & Die Co Waterbury

Carbon Pile Type Resistors
Engineered Metals Manchester

Card Clothing
Standard Card Clothing Co The (for textile mills) Stafford Springs

Card Indexes
Wassell Organization Inc Westport

Carpenter's Tools
Sargent & Company (Planes, Squares, Plumb Bobs, Bench Screws, Clamps and Saw Vises) New Haven

Carpets and Rugs
Bigelow-Sanford Carpet Co Thompsonville

Carton Closure Equipment
Better Packages Inc ("Tape-O-Matic," "Better Pack") Shelton

Casket Trimmings
Bridgeport Casket Hardware Co., The Bridgeport

Casters
Bassick Company The (Industrial and General) Bridgeport

Castings
Commercial Foundry Co., The (brass, bronze, aluminum) New Britain
Connecticut Foundry Co (grey iron) Rocky Hill
Connecticut Malleable Castings Co (malleable iron castings) New Haven
Ductile Iron Foundry Inc Stratford
Eastern Malleable Iron Company The (malleable iron, metal and alloy) Naugatuck
Farrel-Birmingham Company Inc (Meehanite Nodular Iron, Steel) Ansonia
H R Engineering Laboratories Inc (centrifugal steel mold) East Haddam
Malleable Iron Fittings Co (malleable iron and steel) Branford
McLagon Foundry Co (grey iron) New Haven
New England Alloy Casting Corp Hartford
Newton-New Haven Co (zinc and aluminum) West Haven
Nutmeg Crucible Steel Co (steel) Branford
Plainville Casting Company (gray, alloy and high tensile irons) Plainville
Philbrick-Booth & Spencer Inc Hartford
Producto Machine Company The Bridgeport
Scovill Manufacturing Company (Brass & Bronze) Waterbury
Turner & Syemour Mfg Co The (gray iron, semi steel and alloy) Torrington
Union Mfg Co (grey iron & semi steel) New Britain
Waterbury Foundry Company The (highway & sash weights) Waterbury
Wilcox Crittenden & Co Inc (gray iron and brass) Middletown (Advt.)

Castings—Investment
Arwood Precision Casting Corp Groton

Catalog Production
Watson-Manning Advertising Stratford

Cements—Refractory
Mullite Works Refractories Div H K Porter Co Inc Shelton

Centerless Grinding
Brown Manufacturing Co Plainville
New England Centerless Grinding Inc West Hartford
Winsted Centerless Co Winsted

Centers
Ready Tool Co The (anti friction, carbide tipped, high speed) Stratford

Centrifugal Pumps
Hamco Inc (gasoline or electric driven) New Haven

Cermets
Russell Mfg Co (for missiles, and for friction materials) Middletown

Chain
Risdon Manufacturing Co John M Russel Div Naugatuck
Turner and Seymour Mfg Co The (weldless sash, jack, safety, furnace, universal, lion and cable) Torrington

Chain-Beaded
Auto-Swage Products Inc Shelton

Chain—Power Transmission and Conveying
Whitney Chain Company Hartford
Whitney Chain Co The Subsidiary of Foote Bros Gear and Machine Corp Hartford

Chairs
The Hitchcock Chair Company Riverton

Chemical Manufacturing
Carwin Company The North Haven

Chemicals
Apothecaries Hall Company Division The Hubbard Hall Chemical Company Waterbury
Axton-Cross Co Shelton
Carwin Company The North Haven
Fuller Brush Co. The (for cleaning and maintenance—cleaners, deodorants, detergents, disinfectants, dust absorbers and polishers) East Hartford
Macalaster Bicknell Company New Haven
MacDermid Incorporated Waterbury
Naugatuck Chemical Division United States Rubber Co Naugatuck
New England Lime Company Canaan
Pfizer & Co Inc Chas Groton
United States Chemical Corp. New Haven

Chemicals—Agriculture
Naugatuck Chemical Division United States Rubber Co (insecticides, fungicides, weed killers) Naugatuck

Chemists—Analytical and Consulting
Bridgeport Testing Laboratory Inc Bridgeport

Christmas Light Clips
Foursome Manufacturing Co Bristol

Chromium Plating
Chromium Corp of America Waterbury
Chromium Process Company The Shelton

Chucks
Jacobs Manufacturing Co The (drill chucks lathe collet chucks and arbors) West Hartford
Skinner Chuck Co The New Britain
Union Manufacturing Company New Britain

Chucks—Air
Power Grip, Inc. Rockfall

Chucks—Drill
Jacobs Manufacturing Co The West Hartford

Chucks & Face Plate Jaws
Skinner Chuck Co The New Britain
Union Manufacturing Company New Britain

Chucks—Lathe
Cushman Chuck Co. (power and hand operated) Hartford

Chucks—Power Operated
Skinner Chuck Co The New Britain
Union Manufacturing Company New Britain

Clay
Howard Company (Fire Howard "B" and High Temperature Dry) New Haven

Cleaning Compounds
Enthone Inc (Industrial) New Haven
MacDermid Incorporated Waterbury

Clock Mechanisms
Lux Clock Mfg Co The Waterbury

Clocks
E Ingraham Co The Bristol
United States Time Corporation The Waterbury

Clocks—Alarm
Lux Clock Mfg Co The Waterbury

Clocks—Automatic Cooking
Lux Clock Mfg Co The Waterbury

Clutches
Snow-Nabstedt Gear Corp The New Haven

Clutch Facings
Raybeston Division of Raybestos-Manhattan Inc (Molded, Woven, Semi-metallic and Full-metallic) Bridgeport
Russell Mfg Co (rubber Shock Cord—all sizes and types) Middletown

Coils—Electric
Bittermann Electric Company Canaan
Rowley Spring Co Inc The (Air-wound for television and electronic industries) Bristol

Coils—Pipe or Tube
National Pipe Bending Co The New Haven
Whitlock Manufacturing Co The Hartford

Coil Winding
Advanced Electronics, Inc. (custom) Rocky Hill

Cold Molded Electrical Insulation
Meriden Molded Plastics Meriden

Commercial Heat Treating
A F Holden Company The West Haven

Communication Systems
Tel-Rad, Inc. Hartford

Compacts
Scovill Manufacturing Company (powder and rouge) Waterbury

Compressors
Brunner Division of Dunham-Bush Inc (Refrigeration, Air Conditioning and Air Compressors) West Hartford
Norwalk Company Inc (high pressure air and gas) South Norwalk

Computers
Reflection Electronics Inc Stamford
Royal McBee Corp Hartford

Concrete Products
Plasticrete Corp Hamden, Hartford, North Haven, Waterbury, Willimantic

Condenser and Heat Exchanger Tubes
Scovill Manufacturing Company Waterbury

CONNECTICUT PRODUCTS AND SERVICES

Cones
Sonoco Products Co (Climax-Lowell Div) (paper) Mystic

Connector
Gorn Electric Co Inc (precision miniature electrical and printed circuit) Stamford

Construction Equipment Trailers
Kensington Welding & Trailer Co The Kensington

Consultants
Robotham Co., The Edward W. (advertising & marketing) Westport

Consulting Engineers
Stanley P. Rockwell Co Inc The (Consulting) Hartford

Continuous Mill Gages
Pratt & Whitney Co Inc West Hartford

Contract Machining
Laurel Mfg Co Inc (Precision Production Small Parts) Plainville
Malleable Iron Fittings Company Branford
McMellon Bros., Inc. (precision threaded parts) Bridgeport

Contract Manufacturers
Advanced Electronics, Inc. Rocky Hill
American Standard Products, Inc. Hartford
Fenn Mfg Co The (Precision Machine Work) Newington
Greist Mfg Co The (Metal parts and assemblies) New Haven
Hartford Machine Screw Co Div of Standard Screw Co Hartford
Merriam Mfg Co (production runs—metal boxes and containers to specifications) Durham
Plume & Atwood Mfg Co The (metal parts and assemblies) Thomaston
Scovill Manufacturing Company (metal parts and assemblies) Waterbury
J H Sessions & Son Bristol
Torrington Co The Torrington
Voss Co The Branford

Controllers
Bristol Company The Waterbury
Manning Maxwell & Moore Inc Stratford

Controls—Remote
Panish Controls (Remote Controls for Marine & Aeronautic Applications) Bridgeport

Controls—Hydraulic Remote
Sperry Products Inc Danbury

Converters DC to AC
Electric Specialty Co Stamford
Safety Electrical Equipment Corp New Haven

Conveyor Systems
Leeds Conveyor Mfg Co The East Haven
Production Equipment Co Meriden

Copper
American Brass Corp The (sheet, wire, rods, tubes) Waterbury
Bristol Brass Corp The (steel) Bristol
Chase Brass & Copper Co (sheet, rod, wire, tube) Waterbury
Thinsheet Metals Co The (sheet and rolls) Waterbury

Copper Castings
Knapp Foundry Company Inc Guilford

Copper Sand Castings
Bridgeport Deoxidized Bronze Corp Bridgeport

Copper Sheets
American Brass Company The Waterbury
New Haven Copper Co The Seymour

Copper Shingles
New Haven Copper Co The Seymour

Copper Water Tube
American Brass Company The Waterbury

Copying Machines
Thermo-Fax Sales of Conn., Inc. New Haven

Cord
Russell Mfg Co The (marine & aero shock) Middletown

Cord Sets—Electric
General Electric Company Bridgeport
Seeger-Williams Inc Bridgeport

Cork Cots
Sonoco Products Co (Climax-Lowell Div) Mystic

Corn Cob Meal
Nielson & Sons Inc John R (Graded) South Windsor

Correspondence Files
Wassell Organization Inc Westport

Corrugated Box Manufacturers
Connecticut Container Corporation New Haven
Corrugated Containers Inc Hartford

Corrugated Shipping Cases
Connecticut Container Corporation New Haven
Continental Can Co Fibre Drum and Corrugated Box Division Portland
D L & D Container Corp New Haven
New Haven Board & Carton Co. New Haven

Cosmetic Containers
Eyelet Specialty Div International Silver Co Wallingford
Lakewood Metal Products, Inc. Waterbury
Plume & Atwood Mfg Co The (metal) Thomaston
Scovill Manufacturing Company Waterbury

Cosmetics
Chesebrough-Pond's, Inc. Clinton
Fuller Brush Co. The East Hartford

Counting Devices
Veeder-Root Inc Hartford

Couplings
Scovill Manufacturing Company (garden and industrial hose) Waterbury

Cushioning for Packaging
Gilman Brothers Co The Gilman

Cutters
Atrax Company The (solid carbide) Newington
Hanson-Whitney Co The (thread milling) Hartford
Mitrametric Co The (ground pinion) Torrington
Pratt & Whitney Co Inc (Milling Cutters all types carbide and HSS) West Hartford

Cutting & Creasing Rule
Bartholomew Co H J Bristol

Data Processing Equipment
Royal McBee Corp Hartford

Decalcomanias
Sirocco Screenprints New Haven

Deep Drawings
Stanley Pressed Metal New Britain
Terryville Manufacturing Co Terryville

Deep Hole Drilling & Reaming
Hamden Deep Hole Drilling Co Hamden
Products Design & Mfg. Corp. Newington

Delayed Action Mechanism
M H Rhodes Inc Hartford
R W Cramer Company Inc The Centerbrook

Design
Designers for Business and Industry (product design-appearance) New Haven
Maurice Libson Designer (product styling & appearance design) New Haven

Diamonds—Industrial
Parsons Diamond Products Inc West Hartford
Russell Inc RR Newington

Diamond Tools
Parsons Diamond Products Inc West Hartford
Russell Inc RR Newington

Dictating Machines
Dictaphone Corporation Bridgeport
SoundScriber Corporation The New Haven

Die Castings
Mt. Vernon Die Casting Co. Stamford
Peasley Products, Inc. (aluminum and zinc) Stratford
Newton-New Haven Co Inc New Haven
Stewart Die Casting Div Stewart-Warner Corp Bridgeport

Die Casting Dies
Eastern Machine Screw Corp The New Haven
Weimann Bros Mfg Co. The Derby

Die Heads—Self Opening
Eastern Machine Screw Corp The New Haven
Geometric Tool Division Greenfield Tap & Die Corp New Haven

Die Sets
Producto Machine Company The Bridgeport
Superior Steel Products Corp. (steel) Cheshire
Union Mfg Co (precision, steel and semi-steel) New Britain

Dies
Hoggson & Pettis Mfg Co The New Haven
Mitrametric Co The (ground for gears) Torrington
Pratt & Whitney Co Inc (thread cutting and thread rolling) West Hartford

Dies & Die Cutting
Douglas Co Geo M New Haven

Dielectric Heaters
Radio Frequency Co., Inc. New Britain

Displays
Sansome Co., S. Frederick (design & production) Short Beach

Display Containers
National Folding Box Co Div Federal Paper Board Co Inc (folding paperboard) New Haven and Versailles

Displays—Design & Production
Ad-Craft Displays Inc Bloomfield
Stifel & Kufta New Britain

Display Equipment
Polecats Inc Old Saybrook

Displays—Metal
Durham Mfg Co The (Designing & Mfg to customers' specifications) Durham
Merriam Mfg Co (Contract Work to Individual Specifications) Durham
Parsons Co Inc W A (custom designed) Durham

Displays—Plastic
Dura Plastics of New York Inc Westport

Diversification Advisors
Wirth Management Company Wilton

Door Closers
Sargent & Company New Haven

Doors
Bilco Co The (metal, residential and commercial) West Haven

Dowel Pins
Allen Manufacturing Co The Bloomfield
Hartford Machine Screw Co Div of Standard Screw Co Hartford
Holo-Krome Screw Corp The West Hartford
Torrington Co The Torrington

Drafting Accessories
Joseph Merritt & Co Hartford

Drawn Shells
Cly-Del Manufacturing Co Waterbury

Drill Presses
Sigourney Tool Co. (sensitive drilling machines) Bloomfield
Townsend Mfg Co The H P Elmwood

Drilling Machines
Pratt & Whitney Co Inc (Deep Hole) West Hartford

Drilling Service—Hard Steel
Walton Co., The West Hartford

Drilling and Tapping Units
Hartford Special Machinery Co. Hartford

Drop Forgings
Atwater Mfg Co Plantsville
Billings & Spencer Co The Hartford
Consolidated Industries West Cheshire
Wilcox Crittenden & Co Inc Middletown

Duplicating Machines
Thermo-Fax Sales of Conn., Inc. New Haven

Duplicating Machines—Automatic
Pratt & Whitney Co Inc West Hartford

Dust Collectors
Colonial Blower Co — Plainville
Ventilating Supplies Inc — Plainville

Elastic
Russell Mfg Co (rubber shock cord—all sizes and types) — Middletown

Electric Cables
General Electric Company (for residential, commercial and industrial applications) — Bridgeport
Rockbestos Wire & Cable Co Div Cerro de Pasco Corp (asbestos insulated) — New Haven

Electric Cord Springs
Bristol Spring Manufacturing Co — Plainville

Electric Cords
General Electric Company — Bridgeport
Rockbestos Wire & Cable Co Div Cerro de Pasco Corp (asbestos insulated) — New Haven

Electric Enclosed Switches
Arrow-Hart & Hegeman Electric Co The — Hartford

Electric Eye Control
Ripley Company Inc — Middletown

Electric Fixture Wire
Rockbestos Wire & Cable Co Div Cerro de Pasco Corp (asbestos insulated) — New Haven

Electric Hand Irons
Winsted Hardware Mfg Co (trade mark "Durabilt") — Winsted

Electric Heating Elements
Hartford Element Co — Hartford

Electric Insulation
Stevens Paper Mills Inc The — Windsor

Electric Lighting Fixtures
Plume & Atwood Mfg Co The — Thomaston
Wasley Products Inc — Plainville

Electric Motor Controls
Arrow-Hart & Hegeman Electric Co The — Hartford

Electric Motor Winding
Monarch Electric Co (3 phase industrial motors) — New Britain

Electric Motor Repair
B & J Electric Co — Ansonia

Electric Motors
Electric Specialty Co — Stamford
Harvey Hubbell Incorporated — Bridgeport
Iona Manufacturing Company The — Manchester
Monarch Electric Co (Allis Chalmers) — New Britain
Safety Electrical Equipment Corp — New Haven
U S Electrical Motors Inc — Milford

Electric Switches
Harvey Hubbell, Incorporated — Bridgeport

Electric Time Controls
Cramer Controls Corporation The — Centerbrook

Electric Wire
Rockbestos Wire & Cable Co Div Cerro de Pasco Corp (asbestos insulated) — New Haven

Electric Wiring Devices
Arrow-Hart & Hegeman Electric Co The — Hartford
Harvey Hubbell Incorporated — Bridgeport

Electrical Appliances
Iona Manufacturing Company The — Manchester

Electrical Conduit Fittings & Grounding Specialties
Gillette-Vibber Company The — New London

Electrical Connectors
Burndy Corporation — Norwalk

Electrical Control Apparatus
Plainville Electrical Products Co The — Plainville

Electrical Controls
Monarch Electric Co (Allis Chalmers) — New Britain

Electrical Insulation
Case Brothers, Inc. — Manchester

Electrical Recorders
Bristol Co The — Waterbury

Electrical Relays and Controls
Allied Control Co — Plantsville

Electrical Switchboards
Plainville Electrical Products Co The — Plainville
Pneumatic Applications Co — Simsbury

Electrical Wiring Systems
Wiremold Co The — Hartford

Electro Mechanical Prototypes
Victor Tool & Mfg Inc — Higganum

Electronic Assemblies
Advanced Electronics, Inc. (custom) — Rocky Hill

Electronic Parts
Patent Button Company The — Waterbury
Prentice Mfg Co The G E (stampings to customers' specifications) — Kensington
Terryville Manufacturing Co (Stampings to customer specifications) — Terryville

Electronics
Anderson Laboratories, Inc. — West Hartford
Ripley Co — Middletown
Sturrup Larabee & Warmers Inc — Middletown
Vinco Electronics Corporation — New Haven

Electro-Mechanical Assemblies
Advanced Electronics, Inc. (custom) — Rocky Hill

Electroplating
Coggins Mfg. Co., The J. B. — Meriden
Giering Metal Finishing Inc — Hamden
National Sherardizing & Machine Co — Hartford
Waterbury Plating Company — Waterbury

Electroplating—Equipment & Supplies
Apothecaries Hall Company Division — Waterbury
Enthone Inc — New Haven
Hubbard Hall Chemical Company The — Waterbury
Lea Manufacturing Co The — Waterbury
MacDermid Incorporated — Waterbury

Electroplating Processes & Supplies
Enthone Inc — New Haven

Electrotypes
Barnum-Hayward Electrotype Co Inc — New Haven
Lockwood Sons Inc Wm H — Hartford
New Haven Electrotype Div Electrographic Corp — New Haven

Elevators
Eastern Elevator Co (passenger and freight) — New Haven
General Elevator Service Co — Hartford

Employment Agencies
Administrative-Technical Personnel Service — Hartford
Burnham Employment Agency (executive technical, secretarial) — Hartford
Rita, Richard P. Personnel Services, Inc. — New Haven, Bridgeport & Hartford
Snelling & Snelling — Hartford

Enameling
Giering Metal Finishing Inc — Hamden
Waterbury Plating Company — Waterbury

Enamels & Lacquers
Dobbs Chemical Co The (industrial finishes to customers' specifications) — New Haven

Engineering
Research & Development Designers Inc — Middletown
Technical Design and Development Co Inc (design and drafting) — Milford

Engineering Service
Lacey Manufacturing Co., The — Bridgeport

End Mills
Atrax Company The (solid carbide) — Newington

Engraving—Plastic and Nonferrous Metals
New England Engraving Company Div of Dura Plastics of New York Inc — Westport
Pratt & Whitney Co Inc (carbide and HSS) — West Hartford
Salisbury Products Inc — Lakeville

Envelopes
Curtis 1000 Inc — Hartford
United States Envelope Company Hartford Division — Hartford

Environmental Test Equipment
American Research Corporation — Farmington

Excelsior
Nielsen & Sons Inc John R — South Windsor

Explosives
Ensign-Bickford Co., The (safety fuse, detonating fuse, blasting accessories) — Simsbury

Extensions—Tap
Walton Co., The — West Hartford

Extractors
Walton Co., The (tap, pipe & stud) — West Hartford

Extraction Service
Walton Co., The (taps, drills, studs) — West Hartford

Extruders and Accessories
Davis Electric Company (Ram Type Teflon Extruder) — Wallingford
Standard Machinery and Davis-Standard Divisions of Franklin Research Corp — Mystic

Eyelets
American Brass Co The — Waterbury
Arro Eyelet & Tool Co. (small-printed circuit, brass & copper) — Waterbury
Cly-Del Manufacturing — Waterbury
Gem Machine & Tool Co. — Waterbury
Mark Eyelet & Stamping Co (small-metal stampings) — Wolcott
Platt Bros & Co The — Waterbury
Plume & Atwood Mfg Co The — Thomaston
Stevens Co Inc — Waterbury
Salem Mfg. Co. — Prospect

Eyelets, Ferrules and Wiring Terminals
American Brass Company The — Waterbury

Eyelet Machine Products
American Brass Company The — Waterbury
Ball & Socket Mfg Co The — West Cheshire
Cold Forming Mfg Co The — Waterbury
Lakewood Metal Products, Inc. — Waterbury
National Die Co., Inc., The — Wolcott
Platt Bros & Co The — Waterbury
Plume & Atwood Mfg Co The — Thomaston
Stevens Co Inc — Waterbury

Eyelet Parts
Auto-Swage Products, Inc. — Shelton

Fabricators
Scovill Manufacturing Company (aluminum, brass, bronze, copper, steel) — Waterbury

Fabrics
Russell Mfg Co (Teflon, Moulded Fabric, Bearing Surfaces, High Temperature Fabrics) — Middletown

Fan Blades
Torrington Manufacturing Company The — Torrington

Fans—Electric
General Electric Company — Bridgeport
Monarch Electric Co (attic, industrial and ventilating) — New Britain

Fans—Industrial
Ventilating Supplies Inc — Plainville

Fasteners—Aircraft
Scovill Manufacturing Company (PANELOC Aircraft Fasteners) — Waterbury

Fasteners—Industrial
Torrington Co The — Torrington

Fasteners—Laundry Proof
Scovill Manufacturing Company (GRIPPER snap fasteners) — Waterbury

Fasteners—Slide & Snap
Scovill Manufacturing Company (GRIPPER zippers and GRIPPER snap fasteners) — Waterbury

Felt
Auburn Manufacturing Company The (mechanical, cut parts) — Middletown
Dryeor Felt Company (paper makers and industrial) — Staffordville

Felt—All Purpose
American Felt Co (Mill & Cutting Plant) — Glenville
Chas W House & Sons Inc (Mills & Cutting Plant) — Unionville

Fiber-glass Fabrication
Davis Co The E J — West Haven

Fibre Board
Bird & Son Inc — New Britain
Case Brothers Inc — Manchester
Colonial Board Company — Manchester
C H Norton Co The — North Westchester
Stevens Paper Mills Inc The — Windsor

Fiberglass Products
Fiberglass Products Eng. Co. — South Norwalk

CONNECTICUT PRODUCTS AND SERVICES

File Cards
Standard Card Clothing Co The — Stafford Springs

Filing Equipment
Wassell Organization Inc — Westport

Film Processing Machinery
Filmline Corporation — Milford

Filters—Fluid
Alsop Engineering Co — Milldale
Cuno Engineering Corp The — Meriden

Filter Media
National Filter Media Corp. (cloth & paper) — New Haven

Finger Nail Clippers
H C Cook Co The — Ansonia

Firearms
Colt's Patent Fire Arms Mfg Co Inc — Hartford
Junior Screw Machine Products Inc — West Haven
Marlin Firearms Co The — New Haven
O. F. Mossberg & Sons Inc — New Haven

Fire Alarm Systems
Fire-Lite Alarms Inc — New Haven

Fire Hose
Fabrics Fire Hose (municipal and industrial) — Sandy Hook

Fireplace Goods
Puritan Fireplace Furnishings Co. — Milford

Fireworks
M Backes' Sons Inc — Wallingford

Flame Hardening
Flame Treating & Engineering Co., The — West Hartford

Flashlights
Bridgeport Metal Goods Mfg Co — Bridgeport

Flat Head Socket Screws
Holo-Krome Screw Corp. — West Hartford

Flat Springs
Bristol Spring Manufacturing Co. — Plainville
Gemco Manufacturing Co Inc — Southington

Flatware-Stainless Steel
Majestic Silver Co The — New Haven

Flexible Shaft Machines
Pratt & Whitney Co Inc — West Hartford

Floats
Sansome Co., S. Frederick (parade) — Short Beach

Float Switches
Gorn Electric Co Inc (for aircraft and commercial use) — Stamford

Floor & Ceiling Plates
Beaton & Cadwell Mfg Co The — New Britain

Fluorescent Lighting Equipment
Wiremold Company The — Hartford

Foam Rubber
Armstrong Rubber Company The — West Haven

Forgings
Atwater Manufacturing Company — Plantsville
Billings & Spencer Company — Hartford
Bridgeport Hardware Mfg Corp The — Bridgeport
Capewell Manufacturing Company — Hartford
Chase Brass & Copper Co — Waterbury
Consolidated Industries Inc — West Cheshire
Heppenstall Co (all kinds and shapes) — Bridgeport
Ideal Forging Corp. — Southington
Scovill Manufacturing Company (Non-ferrous) — Waterbury

Forming Tools
C & S Tool Co., Inc. — Berlin

Forms
Baker Goodyear Co (Columnar and Analysis) — Branford

Foundries
Connecticut Malleable Castings Co (malleable iron castings) — New Haven
Derby Castings Company, The — Seymour
Ductile Iron Foundry Inc — Stratford
Malleable Iron Fittings Co (Malleable Iron and Steel Castings) — Branford
New England Alloy Casting Corp — Hartford
Plainville Casting Company (gray, alloy and high tensile irons) — Plainville
Producto Machine Company The — Bridgeport
Turner & Seymour Mfg Co The (gray, iron, semi steel and alloy) — Torrington
Union Mfg Co (gray iron & semi steel) — New Britain
Wilcox Crittenden & Co Inc (iron, brass, aluminum and bronze) — Middletown

Fountain Pens and Mechanical Pencils
Waterman Pen Company Inc — Seymour

Foundry Riddles
John P Smith Co The — New Haven

Four Slide Forms
Peck Spring Co — Plainville

Fuel Oil Pump and Heater Sets
Peabody Engineering Corporation — Stamford

Furnaces
Rockwell Co., W. S. (industrial) — Fairfield

Gage Blocks
Pratt & Whitney Co Inc (Alloy steel and Carbide, Hoke and USA) — West Hartford

Galvanizing
Malleable Iron Fittings Co — Branford
Wilcox Crittenden & Co Inc — Middletown

Garment Accessories
Oakville Co. Div. Scovill Mfg. Co. — Oakville

Gaskets
Auburn Manufacturing Company The (from all materials) — Middletown
Raybestos Division of Raybestos-Manhattan Inc — Bridgeport

Gaskets—Metallic
Laminated Shim Company Inc — Glenbrook

Gas Scrubbers, Coolers and Absorbers
Peabody Engineering Corporation — Stamford

Gauges
Bristol Co The (pressure and vacuum-recording automatic control) — Waterbury
Helicoid Gage Division American Chain & Cable Co The (pressure and vacuum) — Bridgeport
J & S Machine Co Inc (End Measures, Cyl Plugs & Rings) — Hartford
Manning Maxwell & Moore Inc — Stratford
New Haven Trap Rock Co The Machine Products Div (Johan Universal and Special Purpose Gauge) — North Branford
Pratt & Whitney Co Inc (Precision Measurement all types) — West Hartford

Gears
Bridgeport Worm & Gear Mfg. Co. — Bridgeport
Bristol Instrument Gears, Inc. — Forestville
Mitrametric Co The (blanked fine pitch) — Torrington

Gears and Gear Cutting
Farrel-Birmingham Company Inc — Ansonia
Fenn Mfg Co The — Newington
United Gear & Machine Co — Suffield

Generators
Hamco Inc (electric, portable, gasoline driven) — New Haven
Safety Electrical Equipment Corp — New Haven

Glass Blowing
Macalaster Bicknell Company — New Haven

Glass Containers
Feldman Glass Co. The — New Haven

Glass Cutters
Fletcher-Terry Co The — Forestville

Grinding
Farrel-Birmingham Company Inc (Roll and Cylindrical) — Ansonia
Horberg Grinding Industries Inc (Precision custom grinding; centerless, cylindrical, surfaces, internal and special) — Bridgeport
K-F & D Mfg Company The (Contour and Precision) — Manchester

Grinding Machines
Farrel-Birmingham Company Inc (Roll)
Rowbottom Machine Company Inc (cam) — Waterbury

Grinding Wheels
Fuller Merriam Company The — West Haven

Grommets
American Brass Company The — Waterbury
Plume & Atwood Mfg Co The — Waterbury

Ground Plate
Superior Steel Products Corp. — Cheshire

Guards
Interstate Industrial Protection Co. (watchmen service) — Bridgeport

Hack and Band Saw Blades
Capewell Manufacturing Co The — Hartford

Hair Hygiene Preparations
Parker Herbex Corporation — Stamford

Hammer and Axe Wedges
Saling Manufacturing Company ("Sta-Fast" steel) — Unionville

Hammers—Carpenters and Machinists
Capewell Manufacturing Company — Hartford

Hand Tools
Billings and Spencer Company (wrenches, sockets and shop tools) — Hartford
Bridgeport Hardware Mfg Corp The (screw drivers, wrenches, nail pullers, box & crate openers, pliers, saws, trowels & special forgings) — Bridgeport

Hardened and Ground Parts
Hartford Machine Screw Company Div of Standard Screw Co — Hartford

Hardness Testers
Wilson Mechanical Instrument Div American Chain & Cable Company Inc — Bridgeport

Hardware
Bassick Company The (Automotive) — Bridgeport
Eagle Lock & Screw Co. — Terryville
Gordon Associates — Derby
Harlock Products Corp — New Haven
Sargent & Company — New Haven
Wilcox Crittenden & Co Inc (marine heavy and industrial) — Middletown
Yale & Towne Mfg Co The — Stamford

Hardware—Marine & Bus
Rostand Mfg Co The — Milford

Hardware—Trailer Cabinet
Excelsior Hardware Co The — Stamford

Hardware, Trunk & Luggage
Corbin Cabinet Lock Div American Hardware Corp — New Britain
J H Sessions & Son — Bristol
Yale & Towne Mfg Co The — Stamford

Harrow Discs
Scovil, Inc., D & H — Higganum

Hats
Hat Corporation of America (men's felt) — South Norwalk

Hat Machinery
Doran Bros Inc — Danbury

Health Surgical & Orthopedic Supports
Berger Brothers Company The (custom made for back, breast and abdomen) — New Haven

Heaters
Silent Glow Oil Burner Corp., The (portable oil) — Hartford

Heat Elements
Electroflex Heat Inc — Hartford
Safeway Heat Elements Inc (woven wire resistance type) — Middletown

Heat Exchangers
Whitlock Manufacturing Co The — Hartford

Heat Sealing—Electronic
Berger Bros (vinyl-polyethylene) — New Haven

Heat Treating
ABA Tool & Die Co — Manchester
Bennett Metal Treating Co The — Elmwood
Commercial Metal Treating Co — Bridgeport
Hartford Machine Screw Company — Hartford
New Britain-Gridley Machine Division The New Britain Machine Co — New Britain
New Haven Heat Treating Co Inc — New Haven
Progressive Metal Treating (tool and production) — Bridgeport
Skene Co Inc The William A (metals) — Bridgeport
Skinner Chuck Co The — New Britain
Stanley P Rockwell Co Inc The — Hartford

(Advt.)

Heat-Treating Equipment
Barnes Co The Wallace Div Associated Spring Corp Bristol
Bauer & Company Inc Hartford
Rolock Inc (Retorts, Muffles, etc) Fairfield
Stanley P Rockwell Co Inc The (commercial) Hartford

Heat Treating Fixtures
Rolock Inc (Trays, Baskets, etc.) Fairfield
Wiretex Mfg Co Inc Bridgeport

Heat Treating Salts and Compounds
Mitchell-Bradford Chemical Co Milford

Heaters—Electric
General Electric Company Bridgeport

Heating
Dunham-Bush Inc West Hartford

Heating and Cooling Coils
G & O Manufacturing Co New Haven

Heating Elements
Hartford Element Co Hartford

Heavy Chemicals
Naugatuck Chemical Division United States Rubber Co (sulphuric, nitric and muriatic acids and aniline oil) Naugatuck

Hex-Socket Screws
Allen Manufacturing Company The Bloomfield
Bristol Company The Waterbury
Hartford Machine Screw Co Div of Standard Screw Co Hartford

High Frequency Alternators
Electric Specialty Co Stamford
Safety Electrical Equipment Corp New Haven

Highway Guard Rail Hardware
Malleable Iron Fittings Co Branford

Hinges
Homer D Bronson Company Beacon Falls

Hobs and Hobbings
Pratt & Whitney Co Inc (Die and Thread milling) West Hartford

Hobs
Hanson-Whitney Co The (fine pitch gear)

Hoes
Scovil, Inc., D & H (eye and grub) Higganum

Hoists and Trolleys
Union Mfg Company New Britain

Hooks & Eyes
Oakville Co. Div. Scovill Mfg. Co. Oakville

Homogenizers
Sonic Engineering Corp. Stamford

Honing
K-F & D Mfg Company The Manchester

Hose Fittings
Scovill Manufacturing Company (garden and industrial hose) Waterbury

Hose—Flexible Metallic
American Brass Co
American Metal Hose Branch Waterbury
Johnson Metal Hose, Inc. Waterbury

Hose Supporter Trimmings
Hawie Mfg Co The (So-Lo Grip Tabs) Bridgeport

Hospital Products
Seamless Rubber Company New Haven

Hospital & Rehabilitation Equipment
Polecats Inc Old Saybrook

Hydraulic Brake Fluids
Eis Automotive Co Middletown

Hydraulic Components and Systems
Vickers Incorporated Marine & Ordnance Dept. Waterbury

H.S. Form Tools
Somma Tool Co. (for automatic screw machines) Waterbury

Hypodermic Needles
Roehr Products Company Waterbury

Ignitors
Peabody Engineering Corporation (gas, electric or oil, electric) Stamford

Impregnating
American Metaseal Inc (metal, wood, etc.) Hamden

Incinerators
Silent Glow Oil Burner Corp., The Hartford

Industrial Chrome Plating
Mirror Polishing & Buffing Co Waterbury

Indexing Heads
Hartford Special Machinery Co. (Hartford "Super-Spacers") Hartford

Induction Hardening
Flame Treating & Engineering Co. West Hartford

Induction Heaters
Radio Frequency Co., Inc. New Britain

Industrial Coating
Illuminized Finish Co. (vacuum) Cromwell

Industrial Coatings
Aluminized Finish & Mfg Co. (vacuum) Cromwell

Industrial Design
Van Dyck Associates (product appearance and engineering) Westport

Industrial Displays
Sansone Co S Frederick (Designers Builders and Counselors) Short Beach

Industrial Finishes
Chemical Coatings Corporation Rocky Hill

Industrial Security
Interstate Industrial Protection Co. Bridgeport

Industrial Tapes
Seamless Rubber Company New Haven

Industrial Testing
State Testing Laboratory (chemical, physical, environmental, electronic, radiographic isotope) Bridgeport

Infrared Detectors
Barnes Engineering Co. (and systems) Stamford

Inks
Waterman Pen Company Inc Seymour

Insecticides
American Cyanamid Company Waterbury
Fuller Brush Co. The East Hartford

Inserts—Screw Threads
Heli-Coil Corp Danbury

Instalment Payment Books
Wassell Organization Inc Westport

Insulated Wire & Cable
General Electric Company (for residential commercial and industrial applications) Bridgeport
Kerite Company The Seymour

Insulated Wire & Cable Machinery
Davis Electric Company Wallingford

Instruments
Bristol Company The Waterbury
Manning Maxwell & Moore Inc Stratford
Penn Keystone Corporation Derby
Pratt & Whitney Co Inc (Precision Measuring) West Hartford
Terryville Manufacturing Co (stampings for) Terryville

Integrators
Reflectone Electronics Inc Stamford

Intercommunication
Action Systems Co Meriden

Interval Timers
Lux Clock Manufacturing Company Waterbury
Rhodes Inc M H Hartford

Investigators
Dale System, Inc. New Haven

Jacquard Cards
Case Brothers, Inc. Manchester

Japanning
H Sessions & Son Bristol

Jig Borer
Atlantic Machine Tool Works, Inc. (Atlantic in several sizes) Newington
Linley Brothers Company Bridgeport
Moore Special Tool Co (Moore) Bridgeport
Pratt & Whitney Co Inc West Hartford

Jigs, Fixtures & Gages
Federal Machine & Tool Co Bristol

Jig Grinder
Moore Special Tool Co (Moore) Bridgeport

Junior Automobiles
Power Car Company Mystic

Key Blanks
Sargent & Company New Haven

Labels
Naugatuck Chemical Division United States Rubber Co (for rubber articles) Naugatuck

Label Dispensers
Derby Sealers Inc (presure-sensitive labels) Derby

Label Moisteners
Better Packages Inc ("Counterboy"—"Packer") Shelton
Derby Sealers Inc Derby

Laboratory Equipment
Eastern Industries Inc New Haven

Laboratory Supplies
Macalaster Bicknell Company New Haven

Laces
American Fabrics Company The Bridgeport
Wilcox Lee Corporation The Middletown

Lacquers & Synthetic Enamels
Chemical Coatings Corporation Rocky Hill
I-Sis Chemicals Inc Stamford

Ladders
Flint Co A W New Haven

Lamps
Plume & Atwood Mfg Co The (metal oil) Waterbury

Lamp Products
de Sherbinin Products, Inc., W. N. Hawleyville

Lampholders—Incandescent and Fluorescent
General Electric Company Bridgeport

Lamp Shades
Verplex Company The Essex

Lathe Chucks
Whiton Machine Co. New London

Lathes—Toolroom and Automatic
Pratt & Whitney Co Inc West Hartford

Lead Plating
Christie Plating Co The Groton

Leather
Herman Roser & Sons Inc (Genuine Pigskin) Glastonbury

Leather Dog Furnishings
Andrew B Hendryx Co The New Haven
The Smith-Worthington Saddlery Co Hartford

Leather, Mechanical
Auburn Manufacturing Company The (packings, cubs, washers, etc) Middletown

Letterheads
Lehman Brothers Inc (designers, engravers, lithographers) New Haven

Lighting Equipment
Miller Co The (Miller, Ivanhoe) Meriden

Lime
New England Lime Company Canaan

Lipstick Cases
Scovill Manufacturing Company Waterbury

Lipstick Containers
Bridgeport Metal Goods Mfg Co Bridgeport
Lakewood Metal Products, Inc. Waterbury
Plume & Atwood Manufacturing Co Waterbury

Lithography
City Printing Co The New Haven
Connecticut Printers, Inc. Hartford
Lehman Brothers Inc New Haven
Muirson Label Co., Inc. Meriden
O'Toole & Sons Inc T Stamford
Steinbach & Sons A D New Haven

CONNECTICUT PRODUCTS AND SERVICES

Locks—Builders
Sargent & Company — New Haven

Locks—Cabinet
Excelsior Hardware Co The — Stamford

Lock Nuts
McMellon Bros., Inc. — Bridgeport

Locks—Suitcase and Trimmings
Excelsior Hardware Co The — Stamford

Locks—Trunk
Excelsior Hardware Co The — Stamford

Locks—Zipper
Excelsior Hardware Co The — Stamford

Loom—Non-Metallic
Wiremold Company The — Hartford

Lumber & Millwork Products
City Lumber Co of Bridgeport Inc — Bridgeport

Machetes
Collins Company The — Collinsville

Machine Designers and Manufacturers
Research & Development Designers Inc — Middletown

Machine Overload Monitors
Sperry Products Inc — Danbury

Machine Shop Fabrication
Advanced Electronics, Inc. — Rocky Hill

Machine Tools
Farrel-Birmingham Company Inc — Ansonia
Pratt & Whitney Co Inc — West Hartford
Producto Machine Company The — Bridgeport

Machine Work
Banthin Engineering Co — Bridgeport
Essex Machine Works Inc — Essex
Farrel-Birmingham Company Inc — Ansonia
Fenn Manufacturing Company The (precision — Newington
Fuller Brush Co. The (precision contract work) — East Hartford
Hartford Special Machinery Co The (contract work only) — Hartford
McMellon Bros., Inc. (precision threaded parts) — Bridgeport
National Sheradizing & Machine Co. (job) — Hartford
New Haven Trap Rock Co The Machine Products Div — North Branford
Parker-Hartford Corporation — Hartford
Safety Electrical Equipment Corp — New Haven
Torrington Manufacturing Co The (special rolling mill machinery) — Torrington
Torrington Co The — Torrington

Machinery
Conn Machine Repair Inc (special mfg) — Bridgeport
Davis Electric Company (Wire and Cable) — Wallingford
Fenn Manufacturing Company The (special) — Newington
Hallden Machine Company The (mill) — Thomaston
Torrington Manufacturing Co The (mill) — Torrington
Waterbury Farrel Foundry & Machine Co The Division of Textron Inc (metal working) — Waterbury

Machinery—Automatic
Banthin Engineering Company (new and rebuilt) — Bridgeport

Machinery—Automatic Feeding
Technical Design and Development Co Inc — Milford

Machinery—Bolt and Nut
Waterbury Farrel Foundry & Machine Co The Division of Textron Inc — Waterbury

Machinery—Cold Heading
Waterbury Farrel Foundry & Machine Co The Division of Textron Inc — Waterbury

Machinery Dealers & Rebuilders
Botwinik Brothers — New Haven
Bristol Metal Working Equipment — East Hartford
Conn Machine Repair Inc — Bridgeport
J L Lucas and Son — Fairfield
State Machinery Co Inc — New Haven

Machinery—Extruding
Standard Machinery and Davis-Standard Divisions of Franklin Research Corp — Mystic

Machinery—Metal-Working
Fenn Mfg Co The — Newington
Waterbury Farrel Foundry & Machine Co The Division of Textron Inc — Waterbury
Pratt & Whitney Co Inc — West Hartford

Machinery—Nut
Waterbury Farrel Foundry & Machine Co The Division of Textron Inc (forming and tapping) — Waterbury

Machinery—Screw and Rivet
Waterbury Farrel Foundry & Machine Co The Division of Textron Inc — Waterbury

Machinery—Wire Drawing
Fenn Mfg Co The — Newington
Waterbury Farrel Foundry & Machine Co The Division of Textron Inc — Waterbury

Machinery Rebuilding
Conn Machine Repair Inc — Bridgeport

Machinery—Wire Straightening
Shuster Wire Machine Div. Mettler Machine Tool, Inc. — New Haven
Waterbury Farrel Foundry & Machine Co The Division of Textron Inc — Waterbury

Machinery—Wire Straightening and Cutting
Shuster Wire Machine Div. Mettler Machine Tool, Inc. — New Haven

Machines
Allison-Campbell Div. American Chain & Cable Co., Inc. (abrasive cutting machines and wheels) — Bridgeport
Coulter & McKenzie Machine Co The (special, new development engineering design and construction) — Bridgeport

Machines—Automatic Chucking
New Britain-Gridley Machine Division The New Britain Machine Co (multiple spindle and double end) — New Britain
Pratt & Whitney Co Inc (Potter & Johnson) — West Hartford

Machines—Draw Benches
Fenn Manufacturing Company The — Newington
Waterbury Farrel Foundry & Machine Co The Division of Textron Inc — Waterbury

Machines—Forming
Nilson Machine Company The A H (four-slide wire and ribbon stock) — Shelton

Machines—Paper Ruling
John McAdams & Sons Inc — Norwalk

Machines—Precision Boring
New Britain-Gridley Machine Division The New Britain Machine Co — New Britain

Machines—Rolling
Fenn Manufacturing Company The — Newington

Machines—Slotting
Waterbury Farrel Foundry & Machine Co The Division of Textron Inc (screw head) — Waterbury

Machines—Special
Fenn Mfg Co The — Newington
Fuller Brush Co The — East Hartford

Machines—Special Build
Essex Machine Works Inc — Essex

Machines—Swaging
Fenn Manufacturing Company The — Newington
Torrington Co The — Torrington
Waterbury Farrel Foundry & Machine Co The Division of Textron Inc — Waterbury

Machines—Thread Rolling
Shuster Wire Machine Div. Mettler Machine Tool, Inc. — New Haven
Waterbury Farrel Foundry & Machine Co The Division of Textron Inc — Waterbury

Machines—Turks Head
Fenn Manufacturing Company The — Newington
Waterbury Farrel Foundry & Machine Co The Division of Textron Inc — Waterbury

Machines—Wire Drawing
Fenn Manufacturing Company The — Newington
Waterbury Farrel Foundry & Machine Co The Division of Textron Inc — Waterbury

Machining—Horizontal Boring
Tucker Machine Co — New Haven

Magnesium Sand Castings
Peerless Aluminum Foundry Co., Inc. — Bridgeport

Management Consultants
Administrative-Technical Personnel Service — Hartford

Management Counsel
Wirth Management Company — Wilton

Manganese Bronze Ingot
Whipple and Choate Company — Bridgeport

Manicure Instruments
W E Bassett Company The — Derby

Manifold Forms
Walters Business Forms, Inc. — Bloomfield

Marine Equipment
Wilcox-Crittenden Div North & Judd Mfg Co — Middletown

Marine Machines
Essex Machine Works, Inc (Propellors, Shafts, etc.) — Essex

Marine Reserve Gears
Snow-Nabstedt Gear Corp The — New Haven

Marketing Counsel
Brunelle Co., The Charles — Hartford

Market Studies and Reports
Wirth Management Company — Wilton

Marketing Service
Business Incubation Laboratory — Wilton

Marking Devices
Cooney Engraving Co — Branford
Hoggson & Pettis Mfg Co The — New Haven
Parker-Hartford Corporation (steel) — Hartford

Marking Tools
Parker-Hartford Corporation — Hartford

Masonry Products
Plasticrete Corp — Hamden, Hartford, North Haven, Waterbury, Willimantic

Materials Handling
Parsons Co Inc W A (tote pans) — Durham

Mats—Newspaper
Lockwood Sons Inc Wm H — Hartford

Mattresses
Waterbury Mattress Co — Waterbury

Metal Boxes
Durham Mfg Co — Durham
Parsons Co Inc W A (tool kits) — Durham

Metal Boxes and Displays
Durham Mfg Co The (Designing & Mfg to customers' specifications) — Durham
Merriam Mfg Co (Bond, Security, Cash, Utility, Personal Files, Drawer Safes, Custombilt containers and displays) — Durham

Metal Cleaners
Apothecaries Hall Company Division — Waterbury
The Hubbard Hall Chemical Company — New Haven
Enthone Inc — Waterbury
MacDermid Incorporated

Metal Finishes
Enthone Inc — New Haven
Mitchell-Bradford Chemical Co — Milford

Metal Finishing
Contract Plating Co., Inc. — Stratford
Hartford Industrial Finishing Co — Hartford
National Sheradizing & Machine Co — Hartford
Stamford Polishing & Plating Corp. — Stamford
Waterbury Plating Company — Waterbury

Metal Formings
Master Engineering Company — West Cheshire
Oakville Co. Div. Scovill Mfg. Co. — Oakville
Stanley Pressed Metal — New Britain

Metallurgists
Bridgeport Testing Laboratory Inc Bridgeport

Metal Mouldings
Leed Co The H A Hamden

Metal Powder Products
Norwalk Powdered Metals Inc Norwalk

Metal Products—Stampings
American Brass Company The Waterbury
Plume & Atwood Manufacturing Co Thomaston
J H Sessions & Son Bristol
Scovill Manufacturing Company (Made-to-Order) Waterbury
Stanley Pressed Metal New Britain

Metal Specialties
Excelsior Hardware Co The Stamford
Torrington Co The Torrington

Metal Spinning
Moseley Metal Crafts Inc West Hartford

Metal Stampings
American Brass Company The Waterbury
Better Formed Metals Inc Waterbury
Cly-Del Manufacturing Co Waterbury
DooVal Tool & Mfg Inc The Naugatuck
Excelsior Hardware Co The Stamford
Greist Mfg Co The New Haven
H C Cook Co The Ansonia
Stanley Humason Inc Forestville
Mohawk Mfg Co (threaded) Middletown
North & Judd Manufacturing Co New Britain
J A Otterbein Company The (metal fabrications) Middletown
J H Sessions & Son Bristol
Patent Button Co The Waterbury
Plume & Atwood Mfg Co The Thomaston
Saling Manufacturing Company Unionville
Stanhelm Mfg. Co. Bristol
Terryville Manufacturing Co Terryville
Wasley Products Inc Plainville
Waterbury Companies, Inc. Waterbury
Waterbury Lock & Specialty Co The Milford

Meters—Gas
Sprague Meter Company Bridgeport

Meters—Parking
Rhodes Inc M H Hartford

Microfilming
American Microfilming Service Co New Haven
Cine-Video Productions Inc Milford

Microfilm—Reader-Printer
Thermo-Fax Sales of Conn., Inc. New Haven

Micrometers
Slocum Co The J T Glastonbury

Mill Machinery
Torrington Manufacturing Company The Torrington
Waterbury Farrel Foundry & Machine Co The Division of Textron Inc Waterbury

Milling Machines
Pratt & Whitney Co Inc (Keller Tracer—Controlled Milling Machines) West Hartford
Rowbottom Machine Company Inc (cam) Waterbury

Mill Products
Scovill Manufacturing Company (aluminum, brass, bronze, nickel silver—sheet, rod, wire, tube) Waterbury

Mill Supplies
Wilcox-Crittenden Div North & Judd Mfg Co Middletown

Millwork
Hartford Builders Finish Co Hartford

Miniature Precision Connectors
Gorn Electric Co Stamford

Minute Minders
Lux Clock Mfg Co The Waterbury

Mirror Rosettes and Hangers
Waterbury Companies Inc Waterbury

Missile Details
Tag Alloy Welding & Mfg. Co., Inc. (weldments) Glastonbury

Mixing Equipment
Alsop Engineering Co Milldale
Eastern Industries Inc New Haven

Model Work
B & N Tool & Engineering Co (instruments and timing devices) Thomaston

Models and Prototypes
Research & Development Designers Inc Middletown

Mold Frames
Superior Steel Products Corp. Cheshire

Molded Fiberglass Products
Fiberglass Products Eng. Co. South Norwalk

Moldings—Powder Metal Materials
American Sinterings Div. Engineered Plastics Watertown

Mops
Fuller Brush Co. The (wet and dry mops and dusters) East Hartford

Motion Picture Equipment
Victor Animatograph Corp a div of Kalart (16mm sound and silent projectors film splicers and rewinders) Plainville

Motion Pictures
Cine-Video Productions Inc Milford

Motor Drives
Electronic Controls, Inc. (adjustable speed) Stamford

Motor—Generator Sets
Electric Specialty Co Stamford
Safety Electrical Equipment Corp New Haven

Motors—Electric Timing
Cramer Controls Corporation The Centerbrook

Motors—Synchronous
Cramer Controls Corporation The Centerbrook
Electric Specialty Co Stamford

Moulded Plastic Products
Butterfield Inc T F Naugatuck
U S Plastic Molding Corp Wallingford
Waterbury Companies Inc Waterbury
Watertown Mfg Co The Watertown

Mouldings
Himmel Brothers Co The (architectural, metal and store front) Hamden

Moulds
Hoggaton & Pettis Mfg Co The (steel) New Haven

Name Plates
Cooney Engraving Co Branford
Quality Name Plate, Inc. East Glastonbury
Seton Name Plate Co (metal & plastic name plates and identification tags) New Haven

Napper Clothing
Standard Card Clothing Co The (for textile mills) Stafford Springs

Nettings
Wilcox Lace Corp The Middletown

Newspaper Mats
Lockwood Sons Inc Wm H Hartford

New Product Consultants
Business Incubation Laboratory Wilton

Nickel Anodes
Apothecaries Hall Company Division
The Hubbard Hall Chemical Company Waterbury
Seymour Manufacturing Co The Seymour

Nickel Silver
American Brass Company The Waterbury
Plume & Atwood Mfg Co The Thomaston
Waterbury Rolling Mills Inc (sheets, strips, rolls) Waterbury

Nickel Silver Ingot
Whipple and Choate Company The Bridgeport

Night Latches
Sargent & Company New Haven

Nitriding
Hartford Machine Screw Company Hartford

Non-ferrous Metal Castings
Miller Company The Meriden

Nuclear Details
Tag Alloy Welding & Mfg. Co., Inc. (weldments) Glastonbury

Nuts, Bolts and Washers
Clark Brothers Bolt Co Milldale
Hartford Machine Screw Co Div of Standard Screw Co Hartford
Torrington Co The Torrington

Office Equipment
Pitney-Bowes Inc Stamford
Thermo-Fax Sales of Conn., Inc. New Haven
Underwood Corporation Hartford
Wassell Organization Inc Westport

Office Printing
Kellogg & Bulkeley A Division of Connecticut Printers Inc Hartford

Offset Printing
City Printing Co The New Haven

Oil Burners
Miller Company The (domestic) Meriden
Peabody Engineering Corp (Mechanical or Steam Atomizer) Stamford
Silent Glow Oil Burner Corp The Hartford

Oil Tanks
Norwalk Tank Co. Div. Mersick Industries, Inc. South Norwalk
Whitlock Manufacturing Co The Hartford

Oils—Cutting
Anderson Oil and Chemical Company Inc Portland

Optical Comparator Charts
Research & Development Designers Inc Middletown

Optical Cores & Ingots
Plume & Atwood Mfg Co The Thomaston

Optical Instruments
Barnes Engineering Co. (and systems) Stamford

Otis Woven Awning Stripes
The Falls Company Norwich

Ovens
Rockwell Co., W. S. (industrial) Fairfield

Ovens—Electric
Bauer & Company Inc Hartford

Packaging
Commerce Packaging Corporation (military, commercial & export canning & crating) Stamford

Packaging—Engineering
Commerce Packaging Corp Stamford
Progressive Packaging Corp (military & commercial for domestic and export packaging, canning, crating and shipping) East Haven

Packaging & Packing
Commerce Packaging Corp Stamford
Mercer & Stewart Co The Hartford

Packing
Auburn Manufacturing Company The (leather, rubber, asbestos, fibre) Middletown
Raybestos Division of Raybestos-Manhattan Inc (Asbestos and Rubber Sheet) Bridgeport

Padlocks
Sargent & Company New Haven
Waterbury Lock & Specialty Co The Milford

Pads—Office
The Baker Goodyear Company Branford

Paints
Tredennick Paint Manufacturing Co The Meriden

Panelyte
Leed Co The H A Hamden

Pants
Moore Special Tool Co (crush wheel dresser) Bridgeport

Paperboard
Continental Can Co., Boxboard and Folding Carton Division Montville
Federal Paper Board Co Inc New Haven
New Haven Board & Carton Co The New Haven
Robertson Paper Box Co Montville

Paper Boxes
Atlantic Carton Corp (folding) Norwich
National Folding Box Co Div Federal Paper Board Co Inc (folding) New Haven & Versailles
Mills Inc H J Bristol
New Haven Board & Carton Co The New Haven
Robertson Paper Box Co (folding) Montville

Paper Boxes—Folding and Setup
Bridgeport Paper Box Company Bridgeport
M Backers' Sons Inc Wallingford

Paper Clips
H C Cook Co The (steel) Ansonia

Paper Fasteners
Oakville Co. Div. Scovill Mfg. Co. Oakville

Paper Mill Machinery
Farrel-Birmingham Company Inc Ansonia

Paper Products
Nu-Wipe, Inc. (toweling, dusting, polishing, finishing, packaging) Plainville

Paper—Shredded
Nielsen & Sons Inc John R South Windsor

Paper Tubes and Cores
Sonoco Products Co (Climax-Lowell) Div Mystic

Parallel Tubes
Sonoco Products Co (Climax-Lowell) Div Mystic

Parking Meters
Rhodes Inc M H Hartford

Parts
Hartford Machine Screw Co Div of Standard Screw Co Hartford
Scovill Manufacturing Company (ammunition, electric instrument, electrical appliance, fountain pen, instrument, lighting fixture, ordnance, etc.—blanked, stamped, formed, drawn, re-drawn, forged, screw machined, headed, pointed, finished) Waterbury
Torrington Co The Torrington

Penlights
Bridgeport Metal Goods Mfg Co Bridgeport

Perfumes
Chesebrough-Pond's, Inc. Clinton

Personnel Consultants
Snelling & Snelling Hartford
Wirth Management Company Wilton

Personnel Recruiting
Administrative-Technical Personnel Service (executive) Hartford

Pet Furnishings
Andrew B Hendrix Co The New Haven

Phosphate Coating
Black Oxide, Inc. New Britain

Phosphor Bronze
American Brass Company The Waterbury
Miller Company The (sheets, strips, rolls) Meriden
Waterbury Rolling Mills Inc (sheets, strips, rolls) Waterbury

Phosphor Bronze Ingots
Whipple and Choate Company The Bridgeport

Photo Engraving
Dowd Wyllie & Olson Inc Hartford
Wilcox Photo Engraving Co Inc New Haven

Photocopy Equipment and Supplies
Ludwig Inc F G Old Saybrook

Photographic Equipment
Kalart Company Inc Plainville

Piano Repairs
Pratt Read & Co Inc (keys and action) Ivoryton

Piano Supplies
Pratt Read & Co (keys and actions, backs, plates) Ivoryton

Pillow Blocks
New Departure Div of General Motors (ball) Bristol

Pins
CEM Company ("Spirol") Danielson
Hartford Machine Screw Co Div of Standard Screw Co Hartford
Oakville Co. Div. Scovill Mfg. Co. (safety & straight) Oakville
Star Pin Company The (straight and safety) Shelton
Torrington Co The (Dowel & Taper) Torrington

Pins—Common
Union Pin Co., The Winsted

Pins—Plastic Heads
Union Pin Co., The Winsted

Pipe
American Brass Co The (brass and copper) Waterbury
Chase Brass & Copper Co (red brass and copper) Waterbury
Howard Co (cement well and chimney) New Haven

Pipe Fittings
Malleable Iron Fittings Co Branford

Pipe Organs
Austin Organs, Inc. Hartford

Pipe Plugs
Hartford Machine Screw Co Div of Standard Screw Co Hartford

Pipe Plugs—Socketed
Hartford Machine Screw Co Div of Standard Screw Co Hatford

Pistols & Revolvers
Colt's Patent Fire Arms Mfg Co Inc Hartford

Plant Protection
Interstate Industrial Protection Co. Bridgeport

Plastic Blister Packaging
Commerce Packaging Corporation (ball bearings & small parts) Stamford

Plastic Bottles
Plax Corporation Bloomfield

Plastic Buttons
Frank Parizek Manufacturing Co The West Willington

Plastic Engraving
New England Engraving Co Div of Dura Plastics of New York Inc Westport
Salisbury Products Inc Lakeville

Plastic Extruders
Danielson Mfg Co The (nylon and other engineering plastics) Danielson
Jessall Plastics Div of The Electric Storage Battery Co Kensington

Plastic Fabrication
Dura Plastics of New York Inc Westport
Fabricon Corp Unionville
New England Rack Co., Inc. (hood & duct systems, tanks, etc.) Hamden
Salisbury Products Inc Lakeville

Plastic Film & Sheet Materials
Gilman Brothers Co The Gilman
Plax Corporation Bloomfield

Plastic Forming
Dura Plastics of New York Inc Westport

Plastic Lining Equipment
Enthone Inc New Haven

Plastic Material
Dura Plastics of New York Inc (sheet, rod & tube) Westport

Plastic Molders
B & B Plastics, Inc. Oakville
Butterfield Inc T F Naugatuck
Coggins Mfg. Co., The J. B. Meriden
Conn Plastics Waterbury
Danielson Mfg Co The (nylon and other engineering plastics) Danielson
Engineered Plastics Inc Watertown
Plastic Molding Corporation Sandy Hook
Rogers Manufacturing Co The Rockfall
Specialty Plastics Corp (custom) Shelton
Stanley Chemical Co The East Berlin
U S Plastic Molding Corporation Wallingford
Waterbury Companies Inc Waterbury
Waterbury Mfg Co The Watertown

Plastic Packages
Robertson Paper Box Co., Inc. (plastic trays) Montville

Plastic Pipe and Fittings
Colonial Blower Co Plainville
Danielson Mfg Co The (nylon and other engineering plastics) Danielson
Enthone Inc New Haven

Plastic Printing Plates
Lockwood Sons Inc Wm H Hartford

Plastic Rod
Danielson Mfg Co The (nylon and other engineering plastics) Danielson

Plastic Strip
Danielson Mfg Co The (nylon and other engineering plastics) Danielson

Plastic Tubing
Danielson Mfg Co The (nylon and other engineering plastics) Danielson

Plastic Wire Coating Materials
Electronic Rubber Co Stamford

Plastics
Naugatuck Chemical Division United States Rubber Co Naugatuck (Advt.)

Plastics & Resins
American Cyanamid Co Plastics & Resins Div Wallingford

Plastics—Moulds & Dies
Crown Tool & Die Co Inc Bridgeport

Plasticrete Block
Plasticrete Corp Hamden, Hartford, North Haven, Waterbury, Willimantic

Platers
Acme Chromium Plating Co New Haven
Christie Plating Co Groton
Chromium Process Company The (Chromium Plating only) Shelton
Water Plating Company Waterbury

Platers' Equipment
Apothecaries Hall Company Waterbury
Enthone Inc New Haven
Lea Manufacturing Co The Waterbury
MacDermid Incorporated Waterbury

Platers Metal
Plume & Atwood Mfg Co The Thomaston

Plating
Christie Plating Co The (including lead plating) Groton
Giering Metal Finishing Inc Hamden
Roberts Plating Company Naugatuck
Superior Plating Co Bridgeport
Tec-Plate Inc Windsor Locks

Plating Processes and Supplies
Enthone Inc New Haven
Seymour Manufacturing Co The Seymour

Plating Racks
New England Rack Co., Inc. (anodizing, conveyor, etc.) Hamden

Plumbers' Brass Goods
McGuire Mfg. Co Waterbury
Scovill Manufacturing Company Waterbury

Plumbing Specialties
Risdon Manufacturing Co John M Russell Div Naugatuck

Pneumatic Conveyors
Spencer Turbine Co The Hartford

Pole Line Hardware
Malleable Iron Fittings Co Branford

Police Equipment
The Smith-Worthington Saddlery Co Hartford

Polishing
C & E Metal Finishing Co Hartford
Mirror Polishing & Buffing Co Waterbury

Postage Meters
Pitney Bowes Inc Stamford

Potentiometers—Electronic
Bristol Company The Waterbury

Power Wrenches
Cushman Chuck Co. Hartford

Precision Machining
National Tool & Die Co Hartford

Precision Machine Tool Spindles
Whiton Manufacturing Co (for milling, grinding, boring & drilling) Farmington

Precision Manufacturing
American Standard Products, Inc. Hartford
Hartford Machine Screw Co Div of Standard Screw Co Hartford
Torrington Co The Torrington

Precision Revolving Machinery
Whiton Manufacturing Co Farmington

Precision Sheet Metal Fabrication
Milford Fabricating Co Milford

Precision Springs & Wire Forms
Rowley Spring Co Inc The Bristol

Premium Specialties
Waterbury Companies Inc Waterbury

Preservatives—Wood, Rope, Fabric
Darworth Incorporated ("Cuprinol") ("Cellu-san") Simsbury

Pressboard
Case Brothers, Inc. (genuine) Manchester
Case & Risley Press Paper Co (genuine) Oneco

Presses
Farrel-Birmingham Company Inc (Hydraulic) Ansonia

Presses—Power
Pneumatic Application Co The (modernization of presses through conversion to Wichita Air Clutch operation) Simsbury
Waterbury Farrel Foundry & Machine Co The Division of Textron Inc Waterbury

Pressure Vessels
Norwalk Tank Co. Div. Mersick Industries, Inc. South Norwalk
Rolock Inc Fairfield
Whitlock Manufacturing Co The Hartford

Printing
Allied Printing Service Inc Manchester
Bussmann Press Inc New Haven
City Printing Co The New Haven
Connecticut Printers, Inc. Hartford
Finlay Brothers Hartford
Heminway Corporation The Waterbury
Hildreth Press Bristol
Hunter Press Hartford
Lehman Brothers Inc New Haven
Miller-Johnson, Inc Meriden
Taylor & Greenough Co The Wethersfield
T B Simonds Inc Hartford
A D Steinbach & Sons New Haven
The Walker-Rackliff Company New Haven
Typo Press (and lithographing) Bridgeport

Printing Machinery
Banthin Engineering Co (automatic) Bridgeport

Printing Plates
Ads Inc Div CSW Plastic Types Inc (mats services) Rocky Hill
Lockwood Sons Inc Wm H Hartford

Printing Rollers
Chambers-Storck Company Inc The (engraved) Norwich

Printing—Silk Screen
Ad-Craft Displays Inc Bloomfield

Production
House Co N. E. (Assembly, Stampings, Drilling & Tapping) East Hampton

Production Control Equipment
Ripley Company Inc Middletown
Wassell Organization Inc Westport

Propellers—Aircraft
Hamilton Standard Div United Aircraft Corp (propellers and other aircraft equipment) Windsor Locks

Protective Coatings
Harrison Company The A S (waxes) South Norwalk

Public Relations Counsel
Brunelle Co., The Charles Hartford

Publicity Services
Brunelle Co., The Charles Hartford
Watson-Manning Advertising Stratford

Publishers
O'Toole & Sons Inc The Stamford

Pumps
Alsop Engineering Co Milldale
Sonic Engineering Corp. Stamford
Sump Pumps Inc (Deep-well electro-submersible) Stamford

Pumps—Small Industrial
Eastern Industries Inc New Haven

Punches
Hoggson & Pettis Mfg Co The (ticket & cloth) New Haven

Purchasing Service—Industrial
Hartz-Miller Associates Meriden

Putty Softeners—Electrical
Fletcher Terry Co The Forestville

Pyrometers
Bristol Co The (recording and controlling) Waterbury

Radiation—Finned Copper
Bush Manufacturing Co West Hartford
G & O Manufacturing Company The New Haven
Vulcan Radiator Co The (steel and copper) Hartford

Radiators—Engine Cooling
G & O Manufacturing Co New Haven

Ratchet Offset Screw Driver
Chapman Co J W Durham

Rayon Staple Fiber
Hartford Fibres Co div Bigelow Sanford Co Rocky Hill

Reamers
Atrax Company The (solid carbide) Newington
Pratt & Whitney Co Inc (All types) West Hartford
Pratt & Whitney Co Inc (all types carbide and HSS) West Hartford

Reamers—Helical
Gammons-Hoaglund Co., The Manchester

Reamers—Machine
Gammons-Hoaglund Co., The Manchester

Reamers—Taper
Gammons-Hoaglund Co., The Manchester

Record Equipment
Wassell Organization Inc (filing equipment) Westport

Recorders
Bristol Co The (automatic controllers, temperature, pressure, flow, humidity) Waterbury

Recording Machines
Dictaphone Corporation Bridgeport

Reduction Gears
Snow-Nabstedt Gear Corp The New Haven

Reels—Wooden
Bridge Mfg. Cl., The (for wire and cable) Hazardville

Refractories
Howard Company New Haven
Mullite Works Refractories Div H K Porter Co Inc Shelton

Refrigeration
Dunham-Bush Inc West Hartford

Refrigeration Condensing Units
Brunner Division of Dunham-Bush Inc West Hartford

Refrigeration Service
Hartford Refrigeration Service, Inc. Hartford

Relays
Allied Control, Inc. Plantsville

Rental
HB Motion Picture Service (audio-visual equip.—all types) New Haven

Research and Development
Continental Engineering Corporation Farmington
Raymond Engineering Laboratories (Electro-Mechanical) Middletown
Research & Development Designers Inc Middletown

Resistance Wire
C O Jeliff Mfg Co The (nickel chromium, copper nickel, iron chromium, aluminum) Southport
Kanathal Corporation The Stamford

Respirators
American Optical Company Safety Products Division Putnam

Retainers
Lacey Manufacturing Co., The (precision ball bearing) Bridgeport

Rigid Plastic Sheet Material
Gilman Brothers Company The Gilman

Riveting Machines
Grant Mfg & Machine Co The Bridgeport
Linley Brothers Company Bridgeport
Patent Button Co The (automatic) Waterbury
Ripley Company Inc Middletown
H P Townsend Manufacturing Co The Elmwood

Rivets
Clark Brothers Bolt Co Milldale
Milford Rivet & Machine Co The Milford
Plume & Atwood Mfg Co The Thomaston
Raybestos Div of Raybestos-Manhattan Inc The (brass and aluminum tubular and solid copper) Bridgeport
Raybestos Div of Raybestos-Manhattan Inc The (iron) Bridgeport

Rivet Setting Machines
Milford Rivet & Machine Co The Milford

Rods
American Brass Company The (copper, brass, bronze) Waterbury
Bristol Brass Corp The (brass and bronze) Bristol
Scovill Manufacturing Company (aluminum, brass, bronze, etc.) Waterbury

Rollers—Bituminous Paving
Gabb Special Products Div E Horton & Son Company Windsor Locks

Rolled Shapes
Cowles & Co., C. (and mouldings) New Haven

Roller Skate Wheels
Raybestos Division of Raybestos-Manhattan Inc Bridgeport

Rolling Mills & Equipment
Fenn Mfg Co The Newington
Precision Methods & Machines Inc Waterbury
Waterbury Farrel Foundry & Machine Co The Division of Textron Inc Waterbury

Rolls
Farrel-Birmingham Company Inc (Chilled and Alloy Iron, Steel) Ansonia

Rotary Files
Atrax Company The (carbide) Newington

Routers
Atrax Company The (solid carbide) Newington

Rubber Chemicals
Naugatuck Chemical Division United States Rubber Co Naugatuck
Stamford Rubber Supply Co The ("Factice" Vulcanized Vegetable Oils) Stamford

Rubber Drug Sundries
Seamless Rubber Company New Haven

Rubber Footwear
Goodyear Rubber Co The Middletown

Rubber Latex Compounds and Dispersions
Naugatuck Chemical Division United States Rubber Co (coating, impregnating and adhesive compounds) Naugatuck (Advt.)

Rubber Machinery
Farrel-Birmingham Company Inc Ansonia

Rubber—Molded Specialties
Airex Rubber Prod Corp Portland
Associated Gaskets Inc Bridgeport
Bond Rubber Corporation Derby
Wasley Products Inc Plainville

Rubber Products
Airex Rubber Prod Corp Portland

Rubber Printing Plates
ADS Inc Div CSW Plastic Types Inc Hartford
Lockwood Sons Inc Wm H Hartford

Rubber Products—Mechanical
Associated Gaskets Inc Bridgeport
Auburn Manufacturing Company The (washers) gaskets, molded parts) Middletown

Rubber—Reclaimed
Naugatuck Chemical Division United States Rubber Co Naugatuck

Rubber Specialties
Seamless Rubber Company New Haven

Rubberized Fabrics
Duro-Gloss Rubber Co The New Haven

Rubbers
Naugatuck Chemical Div U S Rubber Co (synthetic rubbers and latex) Naugatuck

Rust Preventives
Anderson Oil and Chemical Company Inc Portland
Enthone Inc New Haven

Rust Removers
Enthone Inc New Haven

Saddlery
The Smith-Worthington Saddlery Co Hartford

Safety Belts
Russell Mfg Co Middletown

Safety Clothing
American Optical Company Safety Products Division — Putnam

Safety Fuses
Ensign-Bickford Co The (mining & detonating) — Simsbury

Safety Gloves and Mittens
American Optical Company Safety Products Division — Putnam

Safety Goggles
American Optical Company Safety Products Division — Putnam

Sales Promotion
Langeler-Stevens, Inc. — Orange

Salvage Service
Walton Co., The (broken tools extracted) — West Hartford

Saw Blades—Hack
Capewell Mfg Co The — Hartford

Saw Blades—Hack & Band
Capewell Manufacturing Company — Hartford
Thompson & Son Co The Henry G — New Haven

Saws, Band, Metal Cutting
Atlantic Saw Mfg Co — New Haven
Capewell Manufacturing Co The — Hartford

Saws—Hole
Capewell Manufacturing Co The — Hartford
Thompson & Son Co The Henry G — New Haven

Sawdust
Nielson & Sons Inc John R (graded hardwood and softwood) — South Windsor

Scissors
Acme Shear Company The — Bridgeport

Screens
Hartford Wire Works Co The (Windows, Doors and Porches) — Hartford
Norlee Aluminum Prod Corp — Bloomfield

Screw Caps
Weimann Bros Mfg Co The (small for bottles) — Derby

Screw Machines
H P Townsend Mfg Company The — Elmwood

Screw Machine Products
Accurate Screw Products Inc (B & S Swiss & Davenports) — Southington
American Standard Products, Inc. — Hartford
Apex Tool Co Inc The — Bridgeport
Auto Electric Screw Machine Co Inc — Bridgeport
Brown Manufacturing Co (up to 1½" capacity) — Plainville
Consolidated Industries — West Cheshire
Eastern Machine Screw Corp The — New Haven
Fairchild Screw Products Inc — Winsted
Franklin Screw Machine Co. — Hartford
Garthwait Mfg Co A E (up to and incl ½") — Waterbury
Greist Mfg Co The (up to 1½" capacity) — New Haven
Hartford Machine Screw Co Div of Standard Screw Co (up to 5" capacity) — Hartford
Horberg Grinding Industries Inc (heat treated and ground type only) — Bridgeport
Stanley Humason Inc — Forestville
Independent Screw Company (up to and incl 1¼" capacity) — West Hartford
Junior Screw Machine Products Inc — West Haven
Lowe Mfg Co The — Wethersfield
Main Screw Machine Products (davenport & automatics exclusively) — Waterbury
Mayflower Manufacturing Co. — Unionville
National Automatic Products Company The — Berlin
Nelson's Screw Machine Products — Plantsville
New Britain Machine Company The — New Britain
New Haven Screw Machine Prods Inc (up to 1½" capacity) — Milford
Newton Screw Machine Products Co — Plainville
Olson Brothers Company (up to ¾" capacity) — Plainville
Olson & Sons R P — Southington
Plume & Atwood Mfg Co The — Thomaston
Products Design & Mfg. Corp. (precision) — Newington
Scovill Manufacturing Company — Waterbury
United Screw Machine Co — Thomaston
Waterbury Machine Tools & Products Co (Brown & Sharpe and Davenport) — Waterbury
Wheeler & Son, Inc., Frank — Meriden

Screw Machine Tools
American Cam Company Inc (Circular Form Tools) — Hartford
Cambridge Specialty Co., Inc. (flat & circular form tools) — Kensington
Quaker Tool (H.S. cir. form tools) — Waterbury
Pratt & Whitney Co Inc (Reamers, Taps, Dies, Blades and Knurls) — West Hartford

Screws
Allen Manufacturing Company The — Bloomfield
American Screw Company — Willimantic
Atlantic Screw Works — Hartford
Bristol Company The (socket set and socket cap screws) — Waterbury
Clark Bros Bolt Co Inc (cap and lag) — Milldale
Hartford Machine Screw Co Div of Standard Screw Co — Hartford
Scovill Manufacturing Company — Waterbury
Superior Manufacturing Co The — Winsted
Torrington Co The — Torrington

Screws—Socket
Allen Manufacturing Company The — Bloomfield
Bristol Co The — Waterbury
Hartford Machine Screw Co Div of Standard Screw Co — Hartford

Screw Stock
Driscoll Wire Co., The (steel) — Shelton

Sealing Tape Machines
Better Packages Inc ("Counterboy," "Tape-shooter," "Big Inch") — Shelton
Derby Sealers Inc (gummed and pressure-sensitive tapes) — Derby

Screw Threads—Inserts
Heli-Coil Corp — Danbury

Seals
Russell Mfg Co (for oven doors and fire bulkheads) — Middletown

Sewing Machines
Greist Mfg Co The (Sewing Machine attachments) — New Haven
Singer Manufacturing Company The (industrial) — Bridgeport

Sharpeners
Gorn Electric Co Inc (electric knife and scissors) — Stamford

Shears
Acme Shear Co The (household) — Bridgeport

Sheet Metal Products
American Brass Co The (brass and copper) — Waterbury
Merriam Mfg Co (security boxes, fitted tool boxes, tackle boxes, displays) — Durham
Parsons Co Inc W A (fabricators) — Durham
Plume & Atwood Mfg Co The — Thomaston
Precision Sheet Metal Fabrication Div. Bar-Plate Mfg. Co., Inc. — Orange
United Manufacturing Co Division of the W L Maxson Corp — Hamden

Sheet Metal Stampings
American Brass Company The — Waterbury
American Buckle Co The — West Haven
DooVal Tool & Mfg Inc The — Naugatuck
J H Sessions & Son — Bristol
Plume & Atwood Mfg Co The — Thomaston
Scovill Manufacturing Company (aluminum, brass, bronze, copper, nickel silver, steel and other metals and alloys) — Waterbury
Terryville Manufacturing Co — Terryville

Sheet Steel
Dolan Steel Company Inc — Bridgeport

Shell Cores
Victors Brass Foundry Inc — Guilford

Shell Molding
Victors Brass Foundry Inc — Guilford

Shells
Lakewood Metal Products, Inc. (all metals) — Waterbury
Salem Mfg. Co. — Prospect
Scovill Manufacturing Company (aluminum, brass, bronze, copper, nickel silver—drawn, stamped—electric socket, screw) — Waterbury
Terryville Manufacturing Co — Terryville
Wolcott Tool and Manufacturing Company Inc — Waterbury

Showcase Lighting Equipment
Wiremold Company The — Hartford

Signals
H C Cook Co The (for card files) — Ansonia

Signs
Ad-Craft Displays Inc (all types, quantity only) — Bloomfield
Leonard Sign Co. (neon & factory identification) — Hartford

Silk Screen Process Printing
Ad-Craft Displays Inc — Bloomfield
Norton Co R H — New Haven
Sirocco Screen prints — New Haven
Stifel & Kufta Inc — New Britain

Silk Screening on Metal
Ad-Craft Displays Inc — Bloomfield
Merriam Mfg Co (Displays and Specialties to order) — Durham

Silverware
Wallace Silversmiths Inc — Wallingford

Simulators
Reflectone Electronics Inc — Stamford

Sintered Metal Products
American Sintering Div of Engineered Plastics Inc (Powder Metal Parts) — Watertown
Raybestos Division of Raybestos-Manhattan Inc — Bridgeport

Sizing and Finishing Compounds
American Cyanamid Company — Waterbury

Slide Fasteners
G E Prentice Mfg Co The — Kensington
Scovill Manufacturing Company (GRIPPER zippers) — Waterbury

Smoke Stacks
Norwalk Tank Co. Div. Mersick Industries, Inc. — South Norwalk

Snap Fasteners
Patent Button Co The — Waterbury
Scovill Manufacturing Company (GRIPPER snap fasteners) — Waterbury

Snapout and Continuous Forms
Connecticut Printers, Inc. — Hartford

Soap
Fuller Brush Co. The (personal, household and industrial) — East Hartford

Socket Cap Screws
Holo-Krome Screw Corp. — West Hartford

Socket Pipe Plugs
Holo-Krome Screw Corp. — West Hartford

Socket Screw Keys
Holo-Krome Screw Corp. — West Hartford

Socket Set Screws
Holo-Krome Screw Corp. — West Hartford

Socket Shoulder Screws
Holo-Krome Screw Corp. — West Hartford

Sound Equipment
Vinco Electronics Corporation — New Haven

Spanner Nuts
McMellon Bros., Inc. — Bridgeport

Special Machinery
Banthin Engineering Company (complete and/or parts) — Bridgeport
Farrel-Birmingham Company Inc — Ansonia
Federal Machine & Tool Co — Bristol
Fenn Mfg Co The — Newington
Hartford Special Machinery Co The — Hartford
H P Townsend Mfg Company The — Elmwood
Lacey Manufacturing Co., The — Bridgeport
National Sheradizing Machine Co (mandrels & stock shells for rubber industry) — Hartford
Tucker Machine Co — New Haven

Special Machining
Superior Steel Products Corp. — Cheshire

Special Parts
American Standard Products, Inc. Hartford
Fenn Mfg Co The Newington
Greist Mfg Co The (small machines, especially precision stampings) New Haven
Hartford Machine Screw Company Div of Standard Screw Co Hartford
J H Sessions & Son Bristol
Torrington Co The Torrington

Spline Milling Machines
Townsend Mfg Co The HP Elmwood

Sporting Goods
Seamless Rubber Co. New Haven

Spotwelding
Spotwelders Inc (aluminum, steel, magnesium, titanium & alloys) Stratford

Spouts
Waterbury Companies, Inc. (for Lighter Fluids and Light Oils) Waterbury

Spray Painting
Stamford Polishing & Plating Corp. Stamford

Spray Painting Equipment and Supplies
Lea Manufacturing Co The Waterbury

Spring Coiling Machines
Torrington Manufacturing Co The Torrington

Spring Presses
Townsend Mfg Co The H P Elmwood

Spring Units
Owen Silent Spring Division American Chain & Cable Company Inc Bridgeport

Spring Washers
Barnes Co The Wallace Div Associated Spring Corp Bristol
Terryville Manufacturing Co Terryville

Springs
CE-JA Springs, Inc. (coil & torsion) Newington

Springs—Coil & Flat
Barnes Co The Wallace Div Associated Spring Corp Bristol
Barrett Co William L Bristol
Bristol Spring Manufacturing Co Plainville
Foursome Manufacturing Co Bristol
Newcomb Spring Corp The Southington
New England Spring Mfg Co Unionville
Peck Spring Co The Plainville
Stanley Humason Inc Forestville

Springs—Flat
Atlantic Precision Spring Co Forestville
Barnes Co The Wallace Div Associated Spring Corp Bristol
Bristol Spring Manufacturing Co Plainville
Foursome Manufacturing Co Bristol
Stanley Humason Inc Forestville
New England Spring Mfg Co Unionville
Peck Spring Co Plainville (Advt.)

Springs—Wire
Banner Spring Corporation Hartford
Barnes Co The Wallace Div Associated Spring Corp Bristol
Bernston Co J W Plainville
Bristol Spring Manufacturing Co Plainville
Colonial Spring Corporation The Hartford
Connecticut Spring Corporation The (compression, extension, torsion) Hartford
Foursome Manufacturing Co Bristol
Stanley Humason Inc Forestville
Newcomb Spring Corp The Southington
New England Spring Mfg Co Unionville
Peck Spring Co Plainville
D R Templeman Co (coil and torsion) Plainville

Springs—Wire
Everett Co., Inc. (coil and torsion) New Britain
Terry Spring Company Terryville

Springs, Wire & Flat
Peck Spring Co Plainville

Stamped Metal Products
American Brass Company The Waterbury

Stampings
DooVal Tool & Mfg Inc The Naugatuck
Laminated Shim Company Inc Glenbrook
Foursome Manufacturing Co Bristol
Lacey Manufacturing Co., The (precision sheet metal) Bridgeport
Plume & Atwood Mfg Co The (small) Thomaston
Prentice Mfg Co The G E Kensington
Scovill Manufacturing Company (aluminum, brass, bronze, copper, nickel silver, steel and other metals and alloys—automotive, electrical, radio, etc.—deep drawn, enameled) Waterbury
Stanley Pressed Metal New Britain

Stampings—Small
Acme Shear Co The Bridgeport
Barnes Co The Wallace Div Associated Spring Corp Bristol
Barrett Co William L Bristol
Bristol Spring Manufacturing Co Plainville
Greist Manufacturing Co The New Haven
Laminated Shim Company Inc Glenbrook
Stanley Humason Inc Forestville
Waterbury Companies, Inc. Waterbury
Wire Form Inc Milldale

Stamps
Ball-Adam Steel Stamp Co (steel) New Britain
Hoggson & Pettis Mfg Co The (steel) New Haven
Parker-Hartford Corporation (steel) Hartford
Schwab & Company (steel) Bridgeport

Stamped Assemblies
Cowles & Co., C. New Haven

Stationary Specialties
American Brass Company The Waterbury

Steam Turbines
Whiton Machine Co. New London

Steel Castings
Malleable Iron Fittings Co Branford
New England Alloy Casting Corp (carbon, low alloy and stainless steel castings) Hartford
Nutmeg Crucible Steel Co Branford

Steel—Cold Rolled Spring
Barnes Co The Wallace Div Associated Spring Corp Bristol
Detroit Steel Corporation Hamden

Steel—Cold Rolled Stainless
Seymour Manufacturing Co The Seymour
Ulbrich Stainless Steels Wallingford
Wallingford Steel Company Wallingford

Steel—Cold Rolled Strip
Detroit Steel Corporation Hamden

Steel—Cold Rolled Strip and Sheets
Wallingford Steel Company Wallingford

Steel Flanges
Ideal Forging Corp. (stainless) Southington

Steel Goods
Merriam Mfg Co (sheets products to order) Durham

Steel—Ground Flat Stock
Thompson & Son Co The Henry G New Haven

Steel Rolling Rules
Waterbury Lock & Specialty Co The Milford

Steel—Stainless Alloy and Carbon
Frasse & Co Inc Peter A Hartford

Steel Stamps
Cooney Engraving Co Branford

Stereotypes
New Haven Electrotype Div Electrographic Corp New Haven

Stop Clocks, Electric
H C Thompson Clock Co The Bristol

Storage Batteries
R A E Storage Battery Mfg Co Glastonbury

Straps, Leather
Auburn Manufacturing Company The (textile, industrial, skate, carriage) Middletown

Strip Steel
Detroit Steel Corporation New Haven
Dolan Steel Company Inc Bridgeport

Structural Mouldings
Leed Co The H A Hamden

Studio Couches
Waterbury Mattress Co Waterbury

Super Refractories
Mullite Works Refractories Div H K Porter Co Inc Shelton

Surface Metal Raceway & Fittings
Wiremold Company The Hartford

Surgical Dressings
Acme Cotton Products Co Inc East Killingly

Swaging Machinery
Fenn Mfg Co The Newington
Torrington Co The Torrington
Waterbury Farrel Foundry & Machinery Co The Division of Textron Inc Waterbury

Sweeping Compounds
Nielson & Sons Inc John R South Windsor

Switches
Allied Control Co., Inc. (subminiature, toggle & pushbutton) Plantsville

Switchboards Wire and Cables
Rockbestos Wire & Cable Co Div Cerro de Pasco Corp (asbestos insulated) New Haven

Tableware—Stainless Steel
Wallace Silversmiths Inc Wallingford

Tableware—Sterling Silver
Wallace Silversmiths Inc Wallingford

Tabulating Equipment—Manual
Denominator Company Inc Woodbury
Veeder-Root Incorporated Hartford

Tanks
Acme Welding Div United Tool & Die Co West Hartford
Alsop Engineering Co Milldale
Bigelow Company The (steel) New Haven
Comco Inc Div of Enthone Inc (steel, alloy and lined) New Haven
Colonial Blower Co (steel and alloy) Plainville
Connecticut Welders Inc (steel, alloy & lined) Wallingford
Enthone Inc New Haven
Norwalk Tank Co. Div. Mersick Industries, Inc. South Norwalk
Rolock Inc (Alloy) Fairfield
Storts Welding Company (steel and alloy) Meriden

Tape
Russell Mfg Co (Glass Electrical Insulating Tapes, Glass Fabrics for Plastic Moulding) Middletown

Tape Machines
Better Packages Inc (Manual and electric models for case taping) Shelton
Derby Sealers Inc (manual and electric models) Derby

Taps
Hanson-Whitney Company The Hartford
Pratt & Whitney Co Inc West Hartford

Tap, Drill & Stud Removal
Walton Co., The West Hartford

Tap Extractors
Walton Co., The (and extensions) West Hartford

Tarred Lines
Brownell & Co Inc Moodus

Technical Writing
Watson-Manning Advertising Stratford

Telemetering Instruments
Bristol Co The Waterbury

Television—Radio
Junior Screw Machine Products Inc West Haven

Temperature Controllers
Electronic Controls, Inc. Stamford

Terminals
Waterbury Companies, Inc. Waterbury

Testers—Insulation Wire & Cable
Davis Electric Company Wallingford

Testers—Nondestructive, Ultrasonic
Branson Instrument Inc Stamford
Sperry Products Inc Danbury

Testing
American Metaseal, Inc. (pressure) Hamden

Textile Printing Gums
Polymer Industries Inc Springdale

Textile Processors
Amerbelle Corporation Rockville

Thermometers
Bristol Co The (recording and automatic control) Waterbury
Manning Maxwell & Moore Inc Stratford

Thin Gauge Metals
Plume & Atwood Mfg Co The Thomaston
Thinsheet Metals Co The (plain or tinned in rolls) Waterbury

Thread
American Thread Co The Willimantic
Belding Heminway Corticelli Putnam

Threading
Products Design & Mfg. Corp. Newington

Thread Chasers
Geometric Tool Division Greenfield Tap & Die Corp New Haven

Thread Gages
Hanson-Whitney Company The Hartford
Pratt & Whitney Co Inc West Hartford

Thread Milling
McMellon Bros., Inc. Bridgeport

Thread Milling Machines
Pratt & Whitney Co Inc West Hartford

Thread Repair Kits
Heli-Coil Corp Danbury

Thread Rolling Machinery
Hartford Special Machinery Co. (flat die) Hartford
Shuster Wire Machine Div. Mettler Machine Tool, Inc. New Haven
Waterbury Farrel Foundry & Machine Co The Division of Textron Inc Waterbury

Threading Machines
Grant Mfg & Machine Co The (double cut automatic) Bridgeport

Timers, Interval
A W Haydon Co The Waterbury
H C Thompson Clock Co The Bristol
Cramer Controls Corporation The Centerbrook
Rhodes Inc M H Hartford

Timing Devices
B & N Tool & Engineering Co (development and model work) Thomaston
Cramer Controls Corporation The Centerbrook
A W Haydon Co The Waterbury
Lux Clock Manufacturing Company Waterbury
Rhodes Inc M H Hartford
United States Time Corporation The Waterbury

Timing Devices & Time Switches
A W Haydon Co The Waterbury
Lux Clock Manufacturing Company Waterbury
M H Rhodes Inc Hartford

Tinning
Thinsheet Metals Co The (non-ferrous metals in rolls) Waterbury
Wilcox-Crittenden Div North & Judd Mfg Co Middletown

Tissue
Sanitary Paper Mills, Inc. (Dovalettes facial, bathroom and handkerchiefs) East Hartford

Tires
Armstrong Rubber Company The West Haven

Toiletries
Chesebrough-Pond's, Inc. Clinton

Tool Chests
Vanderman Manufacturing Co The Willimantic

Tool Hardening
Commercial Metal Treating Co. Bridgeport

Tools
B & N Tool & Engineering Co (dies, jigs, fixtures, sub-press and progressive) Thomaston
Hoggson & Pettis Mfg Co The (rubber workers) 141 Brewery St New Haven

Tool Designers
Research & Development Designers Inc Middletown

Tools & Dies
Metropolitan Tool & Die Hartford
Lacey Manufacturing Co., The Bridgeport
Moore Special Tool Co Bridgeport

Tools, Dies & Fixtures
Greist Mfg Co The New Haven

Tools, Dies, Jigs & Fixtures
Fairfield Tool Co., Inc. The Bridgeport
Lyons Tool & Die (modelwork, jig boring) Meriden
Otterbein Co J A Middletown
RSV Engineering Co (gages) Wethersfield
Telke Tool & Die Mfg Co Kensington

Tools, Fixtures, Gauges
Fredericks Tool Co J F West Hartford

Totalizers
Reflectone Electronics, Inc. Stamford

Toys
Geo S Scott Mfg Co The Wallingford
Gilbert Co The A C New Haven
Gong Bell Mfg Co East Hampton
N N Hill Brass Co The East Hampton
Terryville Manufacturing Co. (stampings for) Terryville
U S Plastic Molding Corp Wallingford
Waterbury Companies Inc Waterbury

Transformers
Monarch Electric Co (Allis Chalmers) New Britain

Trucks—Commercial
Metropolitan Body Company (International Harvester Truck chassis and "Metro" bodies) Bridgeport

Truck—Lift
Excelsior Hardware Co The Stamford

Trucks—Skid Platforms
Excelsior Hardware Co The (lift) Stamford

Tube Clips
Weimann Bros Mfg Co The (for collapsible tubes) Derby

Tube Fittings
Scovill Manufacturing Company (UNIFLARE flared tube and LOXIT compression tube) Waterbury

Tubers
Standard Machinery and Davis-Standard Divisions of Franklin Research Corp Mystic

Tubes—Collapsible Metal
Sheffield Tube Corp The New London

Tubing
American Brass Co The (brass and copper) Waterbury
G & O Manufacturing Co (finned) New Haven
Scovill Manufacturing Company (Brass and Copper) Waterbury
Wallingford Steel Co The (stainless and super metals) Wallingford

Tubing—Carbon and Stainless Steel
Frasse & Co Inc Peter A Hartford

Tubing—Flexible Metallic
American Brass Co Metal Hose Branch Waterbury

Tubing—Heat Exchanger
American Brass Company The Waterbury
Scovill Manufacturing Company Waterbury

Tumbling Barrels and Accessories
Nielsen & Sons Inc John R South Windsor

Tumbling Equipment and Supplies
Esbec Barrel Finishing Corp Byram

Tumbling Service
Esbec Barrel Finishing Corp Meriden

Turntables
Macton Machinery Company Inc (industrial & display) Stamford

Typewriters
Royal McBee Corp Hartford
Underwood Corporation Hartford

Typewriter Ribbons and Supplies
Royal McBee Corp Hartford and Bridgeport

Underclearer Rolls
Sonoco Products Co (Climax-Lowell Div) Mystic

Uniforms
Magson Uniform Co. Kensington

Ultrasonic Equipment
Harris Transducer Corp Sub of General Instrument Corp Woodbury
Branson Ultrasonic Corporation Stamford

Underwater Equipment
Seamless Rubber Company New Haven

Universal Joints
Gray and Prior Machine Co. (for machinery) Hartford

V-Belt Drives
Monarch Electric Co (Allis Chalmers) New Britain

Vacuum Bottles and Containers
American Thermos Products Co Norwich

Vacuum Cleaners
Electrolux Corporation Old Greenwich
Spencer Turbine Co The Hartford

Vacuum Coating
Illuminized Finish Co. Cromwell

Vacuum Metallizing
Aluminized Finish & Mfg. Co. Cromwell

Valves
Jenkins Bros Bridgeport
Rockwell Co., W. S. (Butterfly) Fairfield

Valves—Aircraft
Bridgeport Thermostat Div Robertshaw-Fulton Controls Co Milford

Valves—Relief & Control
Beaton & Caldwell Mfg Co New Britain

Valves—Safety & Relief
Manning Maxwell & Moore Inc Stratford

Valves—Solenoid
Allied Control Co., Inc. Plantsville
Skinner Electric Valve Div of The Skinner Chuck Co New Britain

Vanity Boxes
Bridgeport Metal Goods Mfg Co Bridgeport
Plume & Atwood Manufacturing Co Thomaston
Scovill Manufacturing Company Waterbury

Velvets
American Velvet Co (owned and operated by A Wimpfheimer & Bros Inc) Stonington
Leiss Velvet Mfg Co Inc The Willimantic

Venetian Blinds
Findell Manufacturing Company Manchester
Jennings Company The S Barry New Haven

Ventilating Systems
Colonial Blower Company Plainville
Ventilating Supplies Inc Plainville

Vibration Detection Equipment
Advanced Electronics, Inc. Rocky Hill

Vibrators—Pneumatic
Branford Co The (industrial) New Britain

Vinyl Extrusion & Moulding Compounds
Electronic Rubber Co Stamford

Vise Fixtures
Dery & Sons Tool & Die Co A L Pine Meadow

Vise Jaws
Dery & Sons Tool & Die Co A L (gang with loading trays) Pine Meadow

Vises
Fenn Manufacturing Company The (Quick-Action Vises) Newington
Vanderman Manufacturing Co The (Combination Bench Pipe) Willimantic

Wall Paper
Stamford Wall Paper Co Inc Stamford

Washers
American Felt Co (felt) Glenville
Auburn Manufacturing Company The (all materials) Middletown
Fabricon Corp Unionville
Plume & Atwood Mfg Co The (brass & copper) Thomaston
Terryville Manufacturing Co (Made to order—all metals) Terryville

Washers—Felt
Chas W House & Sons Inc (Mills & Cutting Plant) Unionville

Watches
E Ingraham Co The Bristol
United States Time Corporation The Waterbury

Washers—Precision
Laminated Shim Company Inc Glenbrook

Water Deionizers
Penfield Mfg Co Meriden

Water Heaters
Whitlock Manufacturing Co The (instantaneous & storage) Hartford

Water Heaters—Electric
Bauer & Company Inc Hartford

Waxes
Fuller Brush Co. The (liquid and paste for floor and furniture) East Hartford
Harrison Company The A S (and other protective coatings) South Norwalk

Webbing
Russell Mfg Co (Webbing for Safety Seat Belts—all types of webbing) Middletown

Welded Products
Acme Welding Div United Tool & Die Co West Hartford

Welding
Aircraft Welding & Mfg Co Inc (aluminum, stainless steel, magnesium) Hartford
Ansonia Steel Fabrication Co., Inc., (steel, stainless steel and aluminum fabrication) Ansonia
Connecticut Welders Inc (fabrication & repairs) Wallingford
Industrial Welding Company (Equipment Manufacturers—Steel Fabricators) Hartford
Storts Welding Co Inc (tanks and fabrication) Meriden
Tag Alloy Welding & Mfg Co Inc (nuclear, missile and aircraft type) Glastonbury

Welding—Lead
Connecticut Welders Inc (tanks & coils) Wallingford
Lead Products Inc (tanks and fabrication) Manchester
Storts Welding Company (tanks, coils & anodes) Meriden

Welding—Lead Bricks
Lead Products Inc Manchester

Welding Rods
American Brass Company The Waterbury
Bristol Brass Co The (brass & bronze) Bristol

Welding Solder
Lead Products Inc (wire, bar and cakes and babbits) Manchester

Wells
Church Co The Stephens B Seymour

Wheel Dressers—Diamonds
Russell Inc RR Newington

Wicks
Auburn Manufacturing Company The (felt, asbestos) Middletown
Holyoke Heater Corp of Conn Inc Hartford

Window & Door Guards
Hartford Wire Works Co The Hartford
Smith Co The John P New Haven

Wire
American Brass Company The Waterbury
Atlantic Wire Co The (steel) Branford
Bartlett Hair Spring Wire Co The North Haven
Bristol Brass Corp The (brass & bronze) Bristol
Driscoll Wire Co The (steel) Shelton
Hudson Wire Co Winsted Div (insulated & enameled magnet) Winsted
Platt Bros & Co The (zinc and zinc alloy wires) Waterbury
Plume & Atwood Mfg Co The (brass, bronze, nickel silver) Thomaston
Scovill Manufacturing Company (Brass, Bronze and Nickel Silver) Waterbury
Viking Wire Co., Inc. (enameled magnet) Danbury

Wire and Cable
Continental Wire Corp (for industrial and military applications) Wallingford
General Electric Company (for residential, commercial and industrial applications) Bridgeport
Rockbestos Wire & Cable Co Div Cerro de Pasco Corp (all asbestos, mining, shipboard and appliance applications) New Haven (Advt.)

Wire Arches & Trellises
Hartford Wire Works Co The Hartford

Wire Baskets
Rolock Inc Fairfield
Wiretex Mfg Inc (Industrial, for acid, heat, treating and degreasing) Bridgeport

Wire & Cable—High Temperature
Lewis Engineering Co., The Naugatuck

Wire Cloth
Hartford Wire Works Co The Hartford
C O Jelliff Mfg Co The (all metal, all meshes) Southport
McCluskey Wire Co., Inc. (Fourdrinier) New Haven
Pequot Wire Cloth Co., Inc. (industrial grades only) Norwalk
Rolock Inc (alloy) Fairfield
Smith Co The John P New Haven

Wire Dipping Baskets
Hartford Wire Works Co The Hartford
John P Smith Co The New Haven

Wire Forming Machinery
Nilson Machine Company The A H Shelton
Torrington Manufacturing Company The Torrington

Wire Formings
Master Engineering Company West Cheshire
North & Judd Manufacturing Co New Britain
Oakville Co. Div. Scovill Mfg. Co. Oakville
Peck Spring Co Plainville
Turner & Seymour Manufacturing Co The

Wire Forms
Atlantic Precision Spring Co Forestville
Banner Spring Corporation Hartford
Barnes Co The Wallace Div Associated Spring Corp Bristol
Bristol Spring Manufacturing Co Plainville
Colonial Spring Corporation The Hartford
Connecticut Spring Corporation The Hartford
Foursome Manufacturing Co Bristol
Gemco Manufacturing Co Inc Southington
Stanley Humason Inc Forestville
New England Spring Mfg Co Unionville
Peck Spring Co Plainville
Templeman Co D R Plainville
Terryville Manufacturing Co Terryville
Wire Form Inc Milldale

Wire Goods
American Buckle Co The (overall trimmings) West Haven
Scovill Manufacturing Company (To order) Waterbury

Wire Partitions
Hartford Wire Works Co The Hartford
John P Smith Co The New Haven Torrington

Wire Products
Artistic Wire Products Inc Taftsville
Stanley Humason Inc Forestville
Peck Spring Co Plainville
Plume & Atwood Mfg Co The (to order) Thomaston

Wire Reels
Nilson Machine Company The A H Shelton
Shuster Wire Machine Div. Mettler Machine Tool, Inc. New Haven
Waterbury Farrel Foundry & Machine Co The Division of Textron Inc Waterbury

Wire Rings
American Buckle Co The (pan handles and tinners' trimmings) West Haven
Stanley Humason Inc Forestville
Peck Spring Co Plainville
Templeman Co D R Plainville

Wire—Specialties
Andrew B Hendryx Co The New Haven

Wire Springs
Carlson Spring Company (Torsion, Compression, Extension) Berlin

Wire Straightening and Cutting Machinery
Shuster Wire Machine Div. Mettler Machine Tool, Inc. New Haven

Wiring Devices
Harvey Hubbell Inc Bridgeport

Wood Scrapers
Fletcher-Terry Co The Forestville

Woodwork
C H Dresser & Sons Inc (Mfg all kinds of woodwork) Hartford
Hartford Builders Finish Co Hartford

Woven Felts—Wool
Chas W House & Sons Inc (Mills & Cutting Plant) Unionville

X-ray—Industrial
Bridgeport Testing Laboratory, Inc. Bridgeport

Yarns
Aldon Spinning Mills Corporation The (fine-woolen and specialty) Talcottville
Ensign-Bickford Co The (jute-carpet) Simsbury

Zinc
Platt Bros & Co The (ribbon, strip and wire) P O Box 1030 Waterbury

Zinc Castings
Mosman Co., Charles H. Westbrook
Newton-New Haven Co Inc West Haven

Zinc Die Castings
Mt Vernon Die Casting Corporation Stamford
Peasley Products, Inc. Stratford
Stewart Die Casting Div Stewart-Warner Corp Bridgeport

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BLOWER CO. COLONIAL PLAINVILLE CONN.

Tailor-Made Music For Efficiency

(*Continued from page 10*)

the switch is thrown, the next record, regardless of its aptness programwise, is heard, willy-nilly.

Engineered Programs For Maximum Efficiency

There is only one way in which music can be produced to bring maximum benefits to workers and that is to be certain that it is scientifically engineered for the time of day, the specific place and the particular activity. Tailor-made music, programmed by experts, provides a measured amount of mood stimulation to help workers do a better job, with reduced fatigue, less boredom and subdued tensions. Such programs are produced scientifically, not haphazardly.

Functional background music's benefits are most obvious in repetitive types of work operations, but in all cases, the effect of properly programmed music is to raise the dips in the employee's efficiency curve. This factor is measurable in the kinds of work where a record of productivity, error and the like is maintained. While the figure will vary widely according to the individual, for groups it has been found to average out somewhere between 5 and 20% in improved efficiency.

If, in the final analysis, a mark of sound management is the ability to keep employee efficiency up and turnover low, consider that employees spend one-third of their waking hours in plants and offices during their most productive and active years. Is it any wonder that they are keenly interested in their working conditions and appreciate the fact that management shows concern for their welfare. Improving the environment—color, air-conditioning, sound-proofing and background music—have immediate psychological effects. And when these environmental aids are present, it becomes clearly apparent how closely linked employee efficiency is to a worker's surroundings.

The technique of creating functional work programs of music sounds complicated and it is. It requires the combined knowledge of music experts and psychologists; and it must be presented with engineered, stopwatch precision. Otherwise, programming becomes haphazard, ineffectual and could lead to economic loss.

Properly planned music has been found over and over to be one of the most popular and least expensive commodities today for improving morale and working conditions by thousands of industrial managements across the country.

Advertising Index

ADS, Inc.	40
Allen, Russell & Allen	24
American Thread Co.	16
Anderson-Nichols, Inc.	17
Atlantic Aviation	21
Ballard Oil Co.	Outside Back Cover
Bigelow Co., The	25
Canyok, Robert A.	29
Chase Brass & Copper Co., Inc.	34
Chatfield Paper Co.	42
Church Co., The Stephen B.	35
Colonial Blower Co.	36 & 60
Commercial Metal Treating, Inc.	43
Connecticut Medical Service	26
Connecticut Utility Companies	Inside Back Cover
Copeland Co., Inc.	19
Detroit Steel Corporation	15
Eastern Elevator Co.	21
Eastern Steel & Metal Co.	20
Fafnir Bearing Co.	37
Farmington Manufacturing Co.	24 & 29
Feldman Glass Co.	18
Herrick & Cowell Co.	39
Howard Co., The	36
Jones Co., T. A. D.	2
Mills, Inc., H. J.	39
Morrissey & Cheney	39
New Haven Electrotype Div. Electrographic Corp.	28
Nutmeg Crucible Steel Co.	24
Plasticrete Corp.	32
Price, Inc., Dick	27
Rogers Manufacturing Co.	18
Sargeant & Wilbur Heat Treating Corp.	20
Smith Co., The John P.	25
Souther Engineering Co., The Henry	36
Southern New England Telephone Co.	Inside Front Cover
Storts Welding Co.	28
Thompson & Son Co., The Henry G.	20
Tobey, Inc.	33
Travelers Insurance Co.	22-23
Ventilating Supplies, Inc.	34
Waverly Inn, Inc.	34
Wiremold Company	29
Wirth Management Co.	40
Wittstein, Jack	18
Wyatt, Inc.	30-31

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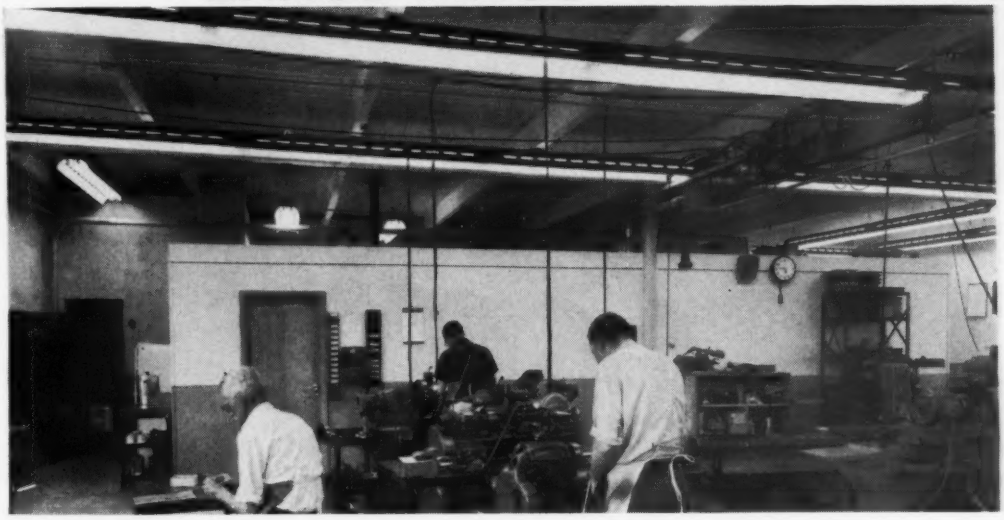

Cardinal
Tool and Machine
Company Inc.

Where seeing is important, good lighting is vital

Size, brightness, contrast and time combine to present an infinite variety of industrial lighting problems. These four fundamental elements are further complicated by the finish of the object, (smooth or rough) the nature of the object, (opaque or transparent) its contour and reflective characteristics. Whether the manufacturing operation is large as Chandler Evans of West Hartford (1500 employees) or small as Cardinal Tool & Machine of Hartford (15 employees) the nature of the seeing task determines the lighting levels.

The choice of lighting sources and equipment follows the analysis of the seeing task and introduces the economic realities. Cardinal Tool & Machine Co., maintains a level of 140 footcandles in the shop area. The lighting layout fits admirably into the system of busduct and trolley runs with the flexible vertical drops.

At Chandler Evans Corp., one line of fluorescent tubes extends over 400 feet and the relighting is still in progress. Beginning in the shop area, they have increased lighting levels in the general office, in the drafting room and now working into the testing laboratories.

In both plants the objects are the same: to effect more and better production, to reduce rejects. In each case, they are experiencing the attendant advantages of higher morale, less eye fatigue and better housekeeping.

The illumination requirements of a job can be measured in a short time. The industrial power representative of your electric utility company is the man to contact. He can conduct a quick and enlightening survey using the SEE-LEVEL COMPARATOR. Why not have him check your plant lighting and, if necessary, propose a plan for regular improvement to bring it up to present day standards.

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THE CONNECTICUT LIGHT AND POWER COMPANY
THE HOUSATONIC PUBLIC SERVICE COMPANY
THE UNITED ILLUMINATING COMPANY

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